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COMMERCIAL FERTILIZERS

REPORT FOR 1940

E. M. BAILEY

Chemist in charge



Connecticut
Agricultural Experiment Station
New Haven

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Commercial Fertilizers Report for 1940

E. M. BAILEY
Chemist in Charge

LAW AND REGULATIONS CONCERNING FERTILIZERS

THE term "commercial fertilizers" as used in the Connecticut fertilizer statute includes any and every substance imported, manufactured, prepared or sold for fertilizing or manuring or soil amendment purposes, except barnyard manure and stable manure that have not been artificially treated or manipulated, marl and lime.

The law exempts from registration, and from other requirements referred to, only (1) fertilizers passing through the State in transit; (2) fertilizers and fertilizer materials shipped to regular fertilizer factories to be used for manufacturing purposes; and (3) fertilizers and fertilizer chemicals sold to the Connecticut Agricultural Experiment Station for experimental purposes.

The law provides that no claim or guaranty for less than 0.82 percent nitrogen or for less than 1 percent of phosphoric acid or for less than 1 percent of potash shall be regarded in the registration of any commercial fertilizer. Materials containing negligible amounts of these elements of plant food are, therefore, not accepted for registration.

The seller is responsible for the proper labelling of each package of fertilizer, for the registration of each brand sold or offered for sale, for the payment of the required analysis fee and for the payment of the tonnage tax. If, however, proper labelling, registration and payments of analysis fees and of tonnage tax have been provided for by the manufacturer or by another responsible person, all sellers of such brands are released from the above mentioned requirements. The retailer, therefore, should assure himself that the requirements of the law have been met by the manufacturer of the brands which he handles, or himself be prepared to meet all these requirements.

It frequently happens that a manufacturer or jobber sells fertilizer materials which are the products of, and which are registered by, another firm or individual. Distributors in such cases should sell such materials by the exact brand names under which they are registered in order that there may be no mistake as to the identity of brands. Any change in the brand names, or failure to make the identity of the brand and its manufacturer clear,

makes the distributor liable for registration of the product as his own brand.

Cottonseed, linseed and soybean meals, when sold or used for fertilizer purposes, must be registered as fertilizers and the specified fees paid thereon. For such products the registration fee is \$10.00 for each brand, payable annually, and six cents per ton tonnage fee, payable semi-annually.

These fees are entirely apart from those required by the feeding stuffs statute.

Because manufacturers or jobbers often do not know how much, if any, of their brands are sold or used as fertilizers, local dealers report their sales to this Station. The information is used to inform manufacturers of the total sales of their brands as fertilizer in this State. It is expected that the fees will be paid by the manufacturers or other party responsible for the brands.

REGISTRATIONS

Late Registrations for 1939

To the brands registered for 1939 in our last report should be added:

The Sherwin-Williams Co., Cleveland, Ohio

Sherwin-Williams Pure Old Process Linseed Meal 5%

Registrations for 1940

For 1940, 64 firms and individuals registered 344 brands of fertilizers at this Station for sale in this State. As required by statute, the brands so registered are listed as follows:

The Acme Guano Co., Baltimore, Md.

Acme 3-10-4
Acme 3-12-6
Acme 4-8-4
Acme 4-8-5 Vitaflor
Acme 4-8-10
Acme 4-12-4
Acme 5-8-7
Acme 5-8-10
Acme 7-7-7
Acme Raw Bone Meal
Acme Sheep Manure
Acme Sulphate of Ammonia
Acme 16% Superphosphate
Acme 20% Superphosphate

Ted Alkire, Lubbock, Texas

Kireal Cotton Hull Ash

The American Agricultural Chemical Co., North Weymouth, Mass.

AA Double Strength Fertilizer 8-16-14
AA 8-16-16 Fertilizer
AA Market Garden Fertilizer 4-8-4
AA Potato and Root Crop Fertilizer 4-8-10
AA Potato and Vegetable Fertilizer 5-8-7
AA 16% Superphosphate
AA 20% Superphosphate
AA Tobacco Starter 5-5-15
AA Top Dresser 7-7-7
Agrico for Aroostook with 10% Potash 5-8-10
Agrico for Corn 3-10-6
Agrico for Corn 4-12-6
Agrico Country Club Fertilizer 8-6-2

Agrico Country Club Fertilizer 8-6-4
 Agrico for Fruit 8-8-4
 Agrico for Gardens 4-10-4
 Agrico for Lawns, Trees and Shrubs 7-7-5
 Agrico for New England 4-8-10
 Agrico for Potatoes and Vegetables 5-8-7
 Agrico for Seeding Down 4-16-20
 Agrico for Tobacco 6-3-6
 Agrico for Top Dressing 7-7-7
 Agrico for Truck 5-10-5
 Agrinite (All Organic Turf Food) 8.5
 Bradley XL Fertilizer 3-10-4
 Castor Pomace
 Double A Tobacco Fertilizer 5-3-5
 Fine Ground Bone
 Muriate of Potash
 Pulverized Sheep and Goat Manure
 Sanderson's Formula B 4-8-7

American Cyanamid Co., 30 Rockefeller Plaza, New York, N. Y.

'Ammo-Phos' 11-48-0
 21% 'Aero' Cyanamid Granular
 22% 'Aero' Cyanamid Pulverized

American Potash & Chemical Corp., 70 Pine St., New York, N. Y.

Trona Muriate of Potash

Apothecaries Hall Co., Waterbury, Conn.

Bone Meal 2.25%
 Bone Meal 3.70%
 Castor Pomace
 Cotton Hull Ashes
 Dry Ground Fish
 Liberty Corn Fertilizer 3-12-6
 Liberty Fertilizer 4-16-4
 Liberty Fertilizer 10-5-5
 Liberty Green Gro 6-5-3
 Liberty High Analysis Fertilizer 8-16-14
 Liberty High Analysis Potato and General Crops 8-16-20
 Liberty High Grade Corn Fertilizer 4-12-4
 Liberty High Grade Market Gardeners 5-8-7
 Liberty High Grade Tobacco Manure 7-3-7
 Liberty High Grade Vegetable Fertilizer 5-10-10
 Liberty Manure Supplement 0-20-10
 Liberty Market Gardeners Special 4-8-4
 Liberty Onion Special (Potash as Sulphate) 4-8-7
 Liberty Potato and General Crops 4-8-10
 Liberty Special Fertilizer for Fruit and Grass 7-7-7

Liberty Special Fertilizer for Lawns, etc. 4-4-0
 Liberty Tobacco Mixture 5-3-5
 Liberty Tobacco Mixture 6-3-6
 Liberty Tobacco Mixture 6-3-7
 Liberty Tobacco Starter 4-10-0
 Liberty Tobacco Starter with Potash 5-5-15
 Liberty Top Dresser for Grass and Grain 8-8-8
 Liberty Tree and Shrub Food 10-8-8
 Liberty Truck Garden and Onion Fertilizer 5-10-5
 Nitrate of Potash
 Precipitated Bone
 Sheep Manure
 Sulphate of Ammonia
 Superphosphate 16%
 Superphosphate 20%
 Tankage

Archer-Daniels-Midland Co., Minneapolis, Minn.

37% Protein Old Process Linseed Meal
 41% Protein Soybean Oil Meal
 44% Protein Soybean Oil Meal

Armour Fertilizer Works, 80 Eighth Ave., New York, N. Y.

Armour's Big Crop Fertilizer 3-12-6
 Armour's Big Crop Fertilizer 4-8-10
 Armour's Big Crop Fertilizer 5-8-7
 Armour's Big Crop Fertilizer 5-10-5
 Armour's Big Crop Fertilizer 5-10-10
 Armour's Big Crop Fertilizer 7-7-7
 Armour's Big Crop Fertilizer 8-16-20
 Armour's Big Crop Superphosphate 20%
 Armour's Big Crop Tobacco Special 5-3-5
 Armour's Big Crop Tobacco Special 6-3-6
 Armour's Big Crop Tobacco Special 7-3-7
 Armour's Big Crop Tobacco Starter 5-5-15
 Armour's Fertilizer 8-16-16
 Armour's Bone Meal Fertilizer 2.47-23
 Armour's Garden and Lawn Fertilizer 4-8-8
 Armour's Special Putting Green Mixture 8-5-2

Ashcraft-Wilkinson Co., Atlanta, Ga.

Cow-Eta Brand 41% Protein Prime Quality Cottonseed Meal
 41% Gild Edge Brand Old Process Soybean Oil Meal
 44% New Process Prime Soy Bean Meal

Associated Seed Growers, Inc., New Haven, Conn.

Clark's 3-10-6 Fertilizer

Clark's 5-10-5 Fertilizer
Clark's Tip Top Fertilizer 5-8-7

Atkins & Durbrow, Inc., 165 John St.,
New York, N. Y.

Henure
Improved Driconure

The Barrett Co., 40 Rector St.,
New York, N. Y.

Arcadian The American Nitrate of
Soda
Arcadian Sulphate of Ammonia
Sulphate of Ammonia

F. A. Bartlett Tree Expert Co.,
60 Canal St., Stamford, Conn.
Bartlett Green Tree Food 6-7-4

The Baugh & Sons Co., 25 S. Calvert
St., Baltimore, Md.

Baughphos, The Ideal 16% Super-
phosphate
Baughphos, The Ideal 20% Super-
phosphate
Baugh's $\frac{3}{4}$ Century Perfection Brand
3-10-6
Baugh's Fish Bone and Potash
Mixture 4-8-4
Baugh's Old Dependable Potato
Grower 4-8-10
Baugh's Peruvian Guano Substitute
5-8-7
Baugh's Pure Steamed Bone Meal
Baugh's Raw Bone Meal, Warranted
Pure
Baugh's Special Top Dresser 7-6-6
Baugh's Truckers Favorite 5-10-5

The Berkshire Chemical Co., Bridgeport,
Conn.

Berkshire Castor Pomace
Berkshire Cotton Hull Ash
Berkshire Dry Ground Menhaden Fish
Berkshire Fertilizer 4-8-4
Berkshire Fertilizer 4-8-7
Berkshire Fertilizer 5-8-7
Berkshire Fertilizer 5-10-5
Berkshire Fertilizer 6-3-6
Berkshire Fertilizer 7-7-7
Berkshire Fertilizer Grass Special
6-6-5
Berkshire Fine Ground Bone
Berkshire Golf Green Fertilizer 8-5-2
Berkshire Sheep and Goat Manure

Central Soya Co., Inc.,
Fort Wayne, Ind.

Central 41% Soybean Oil Meal
Central Star Brand Soybean Oil Meal
44%

Chilean Nitrate Sales Corp.,
120 Broadway, New York, N. Y.
Champion Brand Chilean Nitrate of
Soda
Chilean Nitrate of Soda-Potash
Old Style Chilean Nitrate of Soda

Consolidated Rendering Co., 178 Atlantic
Ave., Boston, Mass.

Corenco 3-10-4 Animal Brand
Corenco 3-10-6
Corenco 4-8-4 Corn and Vegetable
Corenco 4-8-7 Market Garden
Corenco 4-8-10 Potato Grower
Corenco 5-5-5 Lawn and Shrub
Corenco 5-5-15 Tobacco Starter
Corenco 5-8-7 General Crop Manure
Corenco 5-8-10 Peerless Potato
Corenco 5-10-5 Super Truck
Corenco 6-3-6 Special Tobacco
Grower
Corenco 7-6-6 Complete Fruit and
Top Dressing
Corenco 8-16-14 Two in One
Corenco Ground Bone
Corenco Raw Bone Fertilizer
Corenco Sheep Manure
Ground Tankage
Muriate of Potash
Sulphate of Ammonia 20.5
Sulphate of Potash
Superphosphate 16%
Superphosphate 20%

The Davey Tree Expert Co., Kent, Ohio

Davey Shredded Cattle Manure
Davey Tree Food 12-4-4

The Davison Chemical Corp.,
Baltimore, Md.

Davco Granulated Fertilizer 5-8-7
Davco Granulated Fertilizer 6-6-5
Davco Granulated 20% Super-
phosphate

E. I. du Pont de Nemours & Co., Inc.,
Wilmington, Del.

"Uramon"

Eastern States Farmers' Exchange,
Springfield, Mass.

Eastern States 0-20-20
Eastern States 4-16-20
Eastern States 5-5-15 Tobacco
Eastern States 5-10-5
Eastern States 5-10-10
Eastern States 5-15-5
Eastern States 7-7-7
Eastern States 7-14-21
Eastern States 8-4-8 Tobacco
Eastern States 8-8-8 C & B (Cranberry
and Blueberry)
Eastern States 8-16-8
Eastern States 8-16-16

- Eastern States 8-16-16 LCS (Low Chlorine Special)
 Eastern States 8-16-16 (Water Soluble Magnesium)
 Eastern States 8-24-8
 Eastern States 10-5-5
 Eastern States 10-10-10
 Eastern States Agricultural Urea
 Eastern States Calnitro
 Eastern States Castor Pomace
 Eastern States Cottonhull Ash
 Eastern States Dry Ground Fish
 Eastern States Ground Steamed Bone
 Eastern States Muriate of Potash
 Eastern States Nitrate of Potash
 Eastern States Precipitated Bone
 Eastern States Sulphate of Ammonia
 Eastern States Sulphate of Potash
 Eastern States Superphosphate 20%
 Eastern States Superphosphate 40%
- Thomas W. Emerson Co., 213-215 State St., Boston, Mass.**
 Emseco All Use Fertilizer 7-7-7
- Faesy & Besthoff, Inc., 22 E. 40th St., New York, N. Y.**
 Bone Meal
- Flower City Charcoal Co., Rochester, N. Y.**
 Char-Gro 4-16-4
- Ford Motor Co., Dearborn, Mich.**
 Ford Ammonium Sulphate
- French Potash Co., Inc., Baltimore, Md.**
 Muriate of Potash
 Sulphate of Potash
- The Glidden Co., Soya Products Div., Chicago, Ill.**
 Glidden 4 Hi New Process 44% Protein Soybean Oil Meal
- Goulard & Olena, Inc., 140 Liberty St., New York, N. Y.**
 G & O Lawn, Garden and Flower Fertilizer 5-8-5
 G & O Sheep Manure
 J. B. Greens Fertilizer 10-4-3
- A. H. Hoffman, Inc., Landisville, Lancaster County, Pa.**
 Hoffman's Bone Meal
 Hoffman's Cow Manure
 Hoffman's Sheep Manure
- Humphreys-Godwin Co., Memphis, Tenn.**
 Bull Brand Prime 43% Protein Cottonseed Meal
 Dixie Brand Prime 41% Protein Cottonseed Meal
- International Agricultural Corp., Woburn, Mass.**
 International 4-8-4
 International 4-8-10
 International 5-8-7
 International 6-12-12-2
 International 7-6-6
 International 16% Superphosphate
- Spencer Kellogg & Sons, Inc., Buffalo, N. Y.**
 Castor Pomace
 Kellogg's 41% Protein Soybean Oil Meal
- Killen & Hall, Inc., Darien, Conn.**
 Killen and Hall Tree Food 8-5-2
- Lake County Oil Mill, Tiptonville, Tenn.**
 Prime 41 Per Cent Cottonseed Meal
- L. B. Lovitt & Co., Memphis, Tenn.**
 "Lovit Brand" 41% Protein Cottonseed Meal
- McArdle Seed Store, Greenwich, Conn.**
 McArdle's Special Fertilizer 6-5-3
- Mechling Bros. Chemicals, Div. of General Chemical Co., 12 S. 12th St., Philadelphia, Pa.**
 Veget-Aid 5-10-4
- Natural Guano Co., Aurora, Ill.**
 Sheeps Head Sheep Manure
- No. American Car Corp., Premier Poultry Manure Div., Chicago, Ill.**
 Premier Brand Pulverized Poultry Manure
 Premier Brand Pulverized Sheep Manure
- Old Deerfield Fertilizer Co., Inc., So. Deerfield, Mass.**
 Castor Pomace
 Cottonhull Ashes
 Dry Ground Fish
 Fine Ground Bone
 Old Deerfield 4-8-7
 Old Deerfield 5-3-5
 Old Deerfield 5-5-15
 Old Deerfield 5-8-7
 Old Deerfield 6-3-7
 Old Deerfield 7-7-7
- Olds & Whipple, Inc., Hartford, Conn.**
 Luxura 5-8-6
 O & W 3-10-4 Corn Special Fertilizer
 O & W 4-8-4 Market Garden Fertilizer
 O & W 4-8-7 Potato and General Purpose Fertilizer

- O & W 5-3-5 Complete Tobacco Fertilizer
 O & W 5-3-5 Complete Tobacco Fertilizer with Potash derived from Cottonhull Ashes
 O & W 5-5-15 High Grade Tobacco Starter and Potash Compound
 O & W 5-8-7 Potato and General Purpose Fertilizer
 O & W 5-10-10 Fertilizer
 O & W 6-3-6 Blue Label Tobacco Fertilizer
 O & W 6-3-6 Blue Label Tobacco Fertilizer Potash derived from Cottonhull Ashes
 O & W 6-3-7 Special Tobacco Fertilizer
 O & W 7-7-7 Top Dressing and Grass Fertilizer
 O & W 8-16-16 Fertilizer
 O & W Bone Meal
 O & W Castor Pomace
 O & W Cotton Hull Ashes
 O & W Dry Ground Fish
 O & W Nitrate of Potash
 O & W Precipitated Bone Phosphate
 O & W Sulphate of Ammonia
 O & W Superphosphate 16%
 O & W Superphosphate 20%
- Outpost Nurseries, Inc., Ridgefield, Conn.**
 Outpost Plant Food 8-5-2
- Plantspur Products Co., Ridgefield, N. J.**
 Plantspur Fertilizer 3-3-2
- Frank S. Platt Co., Inc., New Haven, Conn.**
 Platco 5-8-7 Fertilizer
 Platt's 10-5-5 Special Lawn Fertilizer
- Potash Co. of America, Baltimore, Md.**
 Bulk — Muriate of Potash 50%
 Bulk — Muriate of Potash 60%
- The Pulverized Manure Co., Union Stock Yards, Chicago, Ill.**
 Wizard Brand Cow Manure
 Wizard Brand Pulverized Sheep Manure
- The Rogers & Hubbard Co., Portland, Conn.**
 Gro-Fast Plant Food 5-6-6
 Hubbard's All Soils Fertilizer 4-8-4
 Hubbard's Castor Pomace
 Hubbard's Climax Tobacco Fertilizer 5-3-5
 Hubbard's Corn Fertilizer 4-8-7
 Hubbard's Corn and Grain Fertilizer 3-10-4
 Hubbard's Cotton Hull Ashes
 Hubbard's Dry Ground Fish
 Hubbard's Fine Ground Bone
- Hubbard's Golf Course Fertilizer 8-6-2
 Hubbard's High Potash Fertilizer 4-8-10
 Hubbard's Potato Fertilizer 5-8-7
 Hubbard's Raw Knuckle Bone Flour
 Hubbard's Sheep and Goat Manure
 Hubbard's Strictly Pure Fine Bone
 Hubbard's Superphosphate 16%
 Hubbard's Superphosphate 20%
 Hubbard's Tobacco Grower 6-3-6
 Hubbard's Top Dressing 8-5-8
 Hubbard's Vegetable Manure 5-8-10
 Red H Brand 4-8-4
 Red H Brand 4-8-7
 Red H Brand 4-8-10
 Red H Brand 5-8-7
 Red H Brand 7-6-6
 Red H Brand 7-7-7
- Ruhm Phosphate and Chemical Co., Mt. Pleasant, Tenn.**
 Red Seal Brand Ruhm's Phosphate Rock (washed and ground)
- O. M. Scott & Sons Co., Marysville, Ohio**
 Scott's Turf Builder 10-6-4
- Sewerage Commission of the City of Milwaukee, Milwaukee, Wis.**
 Milorganite
- M. L. Shoemaker & Co., Philadelphia, Pa.**
 M. L. Shoemaker's "SWIFT-SURE" 4-10-0 Tobacco Starter
- A. E. Staley Manufacturing Co., Decatur, Ill.**
 Staley's SOY-AL-KING
- Standard Wholesale Phosphate & Acid Works, Inc., Baltimore, Md.**
 Standard 5-8-7
 Standard 5-8-10
- Stumpp & Walter Co., New York, N. Y.**
 Sawco Bone 2.47-24.00%
 Sawco Emerald Grass Fertilizer 5-7-3
 Sawco General Garden Fertilizer 5-10-5
 Sawco Pulverized Sheep Manure 2-1-2
- Summers Fertilizer Co., Inc., Baltimore, Md.**
 Summers "Best on Earth" Brand 3-10-6
 Summers "Best on Earth" Brand 4-8-4
 Summers "Best on Earth" Brand 4-8-10
 Summers "Best on Earth" Brand 5-8-7
 Summers "Best on Earth" Brand Goat Manure
 Summers "Best on Earth" 16% Superphosphate

- Summers "Best on Earth" Superphosphate 20%
 Summers "Best on Earth" 40% Superphosphate
 Summers "Best on Earth" Tankage 7% — Processed
- Swift & Co., Fertilizer Works, Baltimore, Md.**
 Bone Meal Fertilizer
 Roselawn 5-8-7
 Swift's Sheep Manure 1.85-1-1.75
 Swift's Special Golf Fertilizer 6-12-4
 Swift's Special Golf Fertilizer 12-6-4
 Vigoro 4-12-4
- Synthetic Nitrogen Products Corp., 285 Madison Ave., New York, N. Y.**
 Calcium Nitrate (Nitrate of Lime)
 Nitrophoska 15-30-15
- Tennessee Corp, Lockland, Ohio**
 Loma (5-10-4)
 Soil-Prep (4-2-2)
- I. P. Thomas & Son Co., 721 Market St., Camden, N. J.**
 I. P. Thomas 3-10-6
 I. P. Thomas 5-8-7
- Walker-Gordon Laboratory Co., Inc. Plainsboro, N. J.**
 Bovung
- Thomas Wood & Sons, Inc., 12-14 Midland Ave., Montclair, N. J.**
 Woodgro Pure Cow Manure Dehydrated
- F. H. Woodruff & Sons, Inc., Milford, Conn.**
 Gro-Sod Lawn Food 10-6-4
- Woodruff Fertilizer Works, Inc., Orange, Conn.**
 Woodruff's Big Crop Fertilizer 5-8-7
 Woodruff's Corn Fertilizer 4-16-4
 Woodruff's 3-10-6 Fertilizer
 Woodruff's 8-16-16 Fertilizer
 Woodruff's Superphosphate 16%
 Woodruff's Superphosphate 20%
 Woodruff's Top Dresser 7-6-6
 Woodruff's Yankee Special Fertilizer 5-10-5

INSPECTION OF 1940

The Station Agent collected 364 official samples of fertilizers including all of the registered brands that could be found. The classification of these and other samples examined is given in the following summary.

As the result of a conference called by Mr. A. F. Kingsbury, Chairman of District No. 1 of the National Fertilizer Association, representatives of Connecticut fertilizer manufacturers and state fertilizer control officials, it was agreed that the Station may include, in annual reports on fertilizer inspection, information on fertilizer tonnage sold in the State, provided that such information is given by grades or other classifications, and in such manner as not to disclose tonnage of individual manufacturers.

Accordingly the summary here given includes data on fertilizer tonnage for the period July 1, 1939 to June 30, 1940. The data are based on tonnage returns received up to October 1 of this year and for statistical purposes they may be regarded as complete.

It should be understood that the data represent fertilizer tonnage that is subject to the provisions of the fertilizer law of this State. They do not include fertilizer materials distributed under the Government's Agricultural Conservation Program.

CLASSIFICATION OF FERTILIZER MATERIALS
AND FERTILIZER TONNAGE

	Page No.	Samples No. of	Tonnage	
I. <i>Containing Chiefly Nitrogen</i>				
Nitrate of soda	14	4	1,284	
Ammonium sulfate	19	6	333	
Castor pomace	20	15	2,886	
Cottonseed meal	14	116	8,431	
Linseed meal	14	10	568	
Soybean oil meal	14	13	2,468	
Calcium nitrate, calnitro, cyan- amid, urea, agrinite	14	10	501	16,471
II. <i>Containing Chiefly Phosphoric Acid</i>				
Superphosphate	15	28	5,682	
Precipitated bone	15	5	259	5,941
III. <i>Containing Chiefly Potash</i>				
Muriate of potash	15	6 }	819	
Sulphate of potash	15	4 }		
Cottonhull ashes	15	43	1,894	2,713
IV. <i>Containing Nitrogen and Potash</i>				
Nitrate of potash	16	11 }	480	
Nitrate of soda-potash .....	....	1 }		480
V. <i>Containing Nitrogen and Phosphoric Acid</i>				
Dry ground fish	16	31	1,150	
Tankage, etc.	16	6	159	
Ground bone	16	34	1,315	2,624
VI. <i>Mixed Fertilizer</i>				
Commercial mixtures	17	225	29,648*	
Special mixtures	17	52	2,815	32,463
VII. <i>Miscellaneous</i>				
Sheep manure, etc.	18	20	673	
Lime	18	45	.....
Other miscellaneous	18	42	.....
Check meals and fertilizers	18	42	.....	673
Total		770		61,365

*For more detailed statement of this tonnage see next page.

MIXED FERTILIZER TONNAGE

Grade	Tonnage	Brands	Grade	Tonnage	Brands
5-8-7	8801	20	6-2-0	605	5
6-3-6	3281	8	4-12-6		
4-8-4	1928	15	10-10-10		
8-16-16	1212	7	8-16-8		
5-3-5	1110	7	0-20-20		
7-7-7	1254	10			
4-8-10	1095	11	7-14-21	367	5
5-10-10	1031	5	12-6-4		
3-10-6	569	8	5-5-5		
7-6-6	454	6	6-7-4		
4-8-7	660	9	6-8-6		
5-8-10	398	5			
5-10-5	665	12	5-6-6	165	5
3-10-4	341	5	6-12-4		
5-5-15	335	7	4-4-0		
			10-3-3		
			0-20-10		
6-3-7	1366	7	6-6-5	165	5
4-12-4			6-12-12		
4-10-0	716	7	7-7-5		
7-3-7			7-10-5		
3-12-6			8-6-4		
8-16-14	367	8	8-8-4	59	5
4-16-20			8-20-12		
10-5-5			10-4-3		
			10-8-6		
10-6-4	224	10	10-8-8		
4-16-4					
8-6-2					
8-5-2	166	8	4-8-8	81	5
6-5-3			4-10-4		
5-8-5			5-7-3		
			5-8-6		
			6-3-5		
8-16-20	65	6	3-3-2	25	5
5-10-4			3-7-6		
12-16-12			4-2-2		
15-30-15			4-8-5		
			4-8-6		
8-4-8	1897	5			
8-24-8					
8-8-8			Miscellaneous	246	
5-15-5					
8-5-8			Total	29,648	

I. RAW MATERIALS CHIEFLY VALUABLE FOR NITROGEN

Nitrate of Soda, etc.

Analyses of official samples of this group, including cyanamid and urea which are classed as organics, are given in Table 1.

Sample 6885, calcium nitrate, was somewhat deficient in nitrogen. Calnitro is a trade name for an imported product containing 20.5 percent of nitrogen, about one-half of which is in nitrate form and one-half as ammonia.

The urea samples showed contamination with some foreign material, one being substantially below guaranty, the other slightly low. Suitable adjustment with purchasers was made by the distributors.

All other samples fully satisfied guaranties. Samples drawn and submitted by purchasers are not included in the tabulated results.

Vegetable Products

Analyses of official samples of vegetable meals are given in Table 2. Unofficial samples are not included.

Vegetable meals, particularly cottonseed and linseed meals, have long been used in this region in tobacco fertilizer formulas. More recently soybean meal has come into use; and a sample of peanut meal was submitted during the year by a tobacco grower. All of these meals are the ground press cakes or residues obtained after the oils have been removed from the seeds by pressure or by the use of solvents. As fertilizers they are chiefly valuable for nitrogen but they contain some quantity of other fertilizer constituents. Analyses are given in the summary below. Figures given in parenthesis are taken from Morrison's compilation (Feeds and Feeding) and represent averages of many samples. Other figures are our own and represent a few samples, sometimes only one.

ANALYSES OF VEGETABLE MEALS

	Cottonseed meal %	Linseed meal %	Soybean meal %	Peanut meal %
Moisture	6.8 (7.2)	.... (8.7)	7.2 (8.3)	6.5 (6.6)
Total nitrogen	6.7 (6.4)	5.5 (5.6)	6.9 (7.1)	7.8 (6.8)
P ₂ O ₅	2.6 (2.9)	.... (2.0)	1.6 (1.5)	1.4 (1.3)
K ₂ O	2.0 (1.8)	.... (1.5)	2.5 (2.6)	1.2 (1.4)
CaO	0.3 (0.3)	0.6 (0.5)	0.5 (0.4)	0.4 (0.2)
MgO	1.1	0.9	0.5	0.7

The quality of the nitrogen in the several meals is indicated by the comparison which follows. The figures given are results of one

analysis in each case so that the data furnish no adequate basis for final judgment. Figures for castor pomace are included.

Activity values are by the alkaline permanganate method by which procedure the insoluble organic nitrogen is rated as of good quality if over 50 percent of it is active.

ACTIVITY OF NITROGEN IN VEGETABLE MEALS

	Cotton-seed meal ¹	Linseed meal ²	Soybean meal	Peanut meal	Castor pomace ¹
	%	%	%	%	%
Total nitrogen	7.02	5.80	8.22	7.79	5.28
Water-soluble nitrogen	0.63	1.74	4.91	0.32	0.88
Insoluble organic nitrogen	6.39	4.06	3.31	7.47	4.40
Active insoluble organic nitrogen	4.09	2.17	1.80	5.30	2.55
Inactive insoluble organic nitrogen	2.30	1.89	1.51	2.17	1.85
Activity of insoluble organic nitrogen....	64	53	54	71	58

¹Cited from JOUR. IND. ENG. CHEM., 4, 440, (1912).

²Conn. Agr. Exp. Sta., Report on Fertilizers, p. 98, (1930).

II. RAW MATERIALS CHIEFLY VALUABLE FOR PHOSPHORIC ACID

Superphosphate is an essential raw material in the fertilizer industry. It was formerly called "acid phosphate" and contained about 16 percent of phosphoric acid. In recent years, by improved methods of manufacture, it commonly contains 20 to 40 percent.

Precipitated bone is another important source of phosphoric acid and is a by-product in the manufacture of glue-stock from bone.

Analyses of official samples of these materials are given in Table 3.

All samples substantially met or exceeded guaranties except in two cases.

III. RAW MATERIALS CHIEFLY VALUABLE FOR POTASH

Analyses of official samples of potash salts and cottonhull ashes are given in Table 4. All guaranties were safely met. Because of their variability in composition, cottonhull ashes are generally sold on a unit basis.

The Old Deerfield Fertilizer Co. of South Deerfield, Mass., registered cottonhull ashes 35 percent K₂O. No official samples were secured but four samples were submitted by purchasers. They ranged from 34.7 to 35.90 percent K₂O on analysis.

IV. RAW MATERIALS SUPPLYING NITROGEN AND POTASH

Only three official samples of this group of raw materials were analyzed. They are summarized in the following tabulation.

No.	Manufacturer or Jobber	Stock of	Nitrogen		Potash	
			Found	Guaranteed	Found	Guaranteed
	Nitrate of Potash		%	%	%	%
5572	Apothecaries Hall Co., Waterbury	Hatheway & Steane, West Suffield	12.48	12.00	43.18	43.00
6911	Eastern States Farmers' Exchange, Springfield, Mass.	Henry Johnson, East Hartford	12.56	13.00	43.68	44.00
6707	Olds & Whipple, Inc., Hartford	E. J. Bantle, Glastonbury	13.08	13.00	44.26	44.00

V. RAW MATERIALS SUPPLYING NITROGEN AND PHOSPHORIC ACID

Analyses of official samples of dry ground fish, tankage and ground bone are given in Tables 5, 6 and 7.

One sample of fish, 6842, was substantially below guaranty in nitrogen and 7139 was slightly low. Eight samples were analyzed for purchasers of fish from this source; seven of them ranged from 9.16 to 10.06 percent nitrogen, one tested 8.54 percent.

The Old Deerfield Fertilizer Co. of South Deerfield, Mass., registered dry ground fish 9.46 - 5.0. No official samples were taken but three samples analyzed for purchasers contained 9.75 to 9.88 percent nitrogen and 6.55 to 6.77 percent of phosphoric acid.

Tankage sample 6624 is a "process tankage". The product designated as "tankage", without qualification, is the usual bone and meat tankage and supplies both nitrogen and phosphoric acid. Process tankages are made from crude, inert nitrogenous materials by pressure cooking or steaming, with or without the use of acids, to increase the activity of the nitrogen. They furnish nitrogen only.

Phosphoric acid guaranties for the bone products were safely met in all samples but two were deficient in nitrogen.

VI. MIXED FERTILIZERS

Analyses of 209 official samples of mixed fertilizers are given in Table 8, page 28. The results may be summarized as follows:

Total number of samples	209
One item	55
Two items	7
Three items	0
Percentage of samples meeting guaranties in all respects	70
Total guaranties made	622 ¹
Guaranties not met:	
Nitrogen	35
Phosphoric acid	11
Potash	23
Percentage of guaranties met	83

¹Five samples with only two guaranties each.

Balancing overruns against shortages, three samples, representing two brands, showed commercial deficiencies in excess of \$1.00 per ton. These were 7066, Acme 5-8-10, \$1.18 and Acme 7-7-7, average of two analyses, \$3.18. Both samples of the latter brand were out of balance for the grade designated.

Activity values for the insoluble organic nitrogen were all above the accepted limits (50 percent by the alkaline, and 80 percent by the neutral, permanganate methods) and indicated no inferior sources of organic nitrogen.

The acid- or base-forming character of the various brands analyzed has been judged by the method adopted by the Association of Official Agricultural Chemists. To overcome acid-forming residual effects of fertilizer mixtures, dolomitic limestone, which is preferable to calcitic limestone for the purpose, may be used. Samples examined in the last three years show that mixtures are preponderantly acid-forming, but this is not necessarily prejudicial to such mixtures because of the general practice of applying liming materials to the soil periodically. On the basis of about 200 samples of mixed fertilizers examined each year for the past three years, the proportions of samples that are non-acid-forming or neutral are 37 percent (1938), 45 percent (1939) and 42 percent (1940).

A summary of chemical deficiencies is given in Table 8(a), p. 42. They are substantially less than last year. Deficiencies of 0.1 percent or less in nitrogen and 0.2 percent or less in available phosphoric acid and potash are not included.

Home Mixtures and Special Mixtures

Analyses of home mixed fertilizers and special mixtures are given in Table 9, p. 43.

State Purchases of Fertilizers

Mixed fertilizers and raw materials sold on purchase orders from the State have been included in our inspection for the past few years. Samples representing such purchases are included in the several tables and identified by footnotes. They appear as follows:

Samples	Material	Reference
2	Nitrate of soda	Table 1, p. 19
4	Superphosphate	" 3, p. 21
2	Muriate of potash	" 4, p. 23
1	Process tankage	" 6, p. 25
1	Ground bone	" 7, p. 26
18	Mixed Fertilizers	" 8, p. 28

All of the samples of raw materials fully met or exceeded guaranties.

Of the 18 samples of mixed goods, guaranties were substantially met or exceeded in 15 samples. Balancing overruns against shortages, there were no significant commercial deficiencies in the other three.

Mixed fertilizers and raw materials sold on state purchase orders are subject to registration and tonnage tax, the only exemption being for such goods as are sold to the Experiment Station for experimental purposes.

VII. MISCELLANEOUS

Analyses of sheep manure and similar commercial manures are given in Table 10.

Liming materials are not required to be registered in this State, but they are included in our inspection. Analyses are given in Table 11.

Among other miscellaneous materials examined during the year those given in Table 12 are recorded for reference.

Forty-two samples of cottonseed meal and fertilizers have been analyzed in connection with the collaborative programs of the American Oil Chemists Society and of the F. S. Royster Guano Co. These programs are participated in by State, commercial and industrial chemists and the comparative results are of interest.

TABLE 1. ANALYSES OF NITRATE OF SODA, ETC.

Station No.	Manufacturer or Jobber	Sampled from stock of	Percent nitrogen	
			Found	Guaranteed
Nitrate of Soda				
6425 ¹	Arcadian, The American. The Barrett Co., New York, N. Y.	West Cheshire, Cheshire Reformatory	16.10	16.00
6648 ¹	Arcadian, The American. The Barrett Co., New York, N. Y.	Newtown: Fairfield State Hospital	16.14	16.00
6509	Champion Brand Chilean. Chilean Nitrate Sales Corp., New York, N. Y.	Milford: Associated Seed Growers, Inc.	16.00	16.00
Calnitro and Calcium Nitrate				
6699	Eastern States Calnitro. Eastern States Farmers' Exch., Springfield, Mass. .	East Hartford: Eastern States Branch	20.54	20.50
6885	Calcium nitrate. Synthetic Nitrogen Products Corp., New York, N. Y. ...	New Canaan: S. Scalandu	14.56 ²	15.00
Cyanamid				
6518	21% 'Aero' Granular. American Cyanamid Co., New York, N. Y.	Orange: Woodruff Fertilizer Works, Inc.	21.08	21.00
6649	22% 'Aero' Pulverized. American Cyanamid Co., New York, N. Y.	Bethel: Eastern States Farmers' Exchange ..	22.84	22.00
Urea				
6907	Eastern States Agricultural. Eastern States Farmers' Exchange, Springfield, Mass.	East Hartford: Henry Johnson	41.80 ³	42.00
7219	Eastern States Agricultural. Eastern States Farmers' Exchange, Springfield, Mass.	East Hartford: Eastern States Branch	40.75 ⁴	42.00
Uramon				
6672	E. I. duPont de Nemours & Co., Inc., Wilmington, Del.	Poquonock: John Cranouski	42.10	42.00
Sulphate of Ammonia				
7210	Apothecaries Hall Co., Waterbury, Conn.,	East Windsor: Apothecaries Hall Co.	20.80	20.50
6592	The Barrett Co., New York, N. Y.	East Hartford: Warehouse	20.64	20.56
6498	Consolidated Rendering Co., Boston, Mass.	New Haven: L. T. Frisbie Co.	20.86	20.50
6750	Eastern States. Eastern States Farmers' Exchange, Springfield, Mass.	Willimantic: Eastern States Branch	20.90	20.50
6903	Ford. Ford Motor Co., Dearborn, Mich.	Middletown: The Longworth-Carlson Co. ..	20.84	20.80
6825	O & W. Olds & Whipple, Inc., Hartford, Conn.	East Hartford: Olds & Whipple, Inc.	20.78	20.56
Agrinite				
6507	Agrinite (All Organic Turf Food) 8.5 American Agricultural Chemical Co., No. Weymouth, Mass.	American Agricultural Chemical Co., West Haven	8.68	8.50

¹State Purchase²Moisture 5.51%³Moisture 1.44%; ash 6.79%⁴Moisture 1.48%; ash 8.48%

TABLE 2. ANALYSES OF CASTOR POMACE, COTTONSEED MEAL, ETC.

Station No.	Manufacturer or Jobber	Sampled from stock of	Percent nitrogen	
			Found	Guaranteed
	Castor Pomace		%	%
6503	American Agricultural Chemical Co., No. Weymouth, Mass.	American Agricultural Chemical Co., West Haven	4.66	4.50
6673	Apothecaries Hall Co., Waterbury, Conn.	John Cranouski, Poquonock	4.69	4.50
6910	Apothecaries Hall Co., Waterbury, Conn.	Henry Johnson, East Hartford	5.31	4.50
6904	Berkshire Chemical Co., Bridgeport, Conn.	John Cranouski, Poquonock	6.15	4.50
7095	Eastern States Farmer's Exchange, Springfield, Mass.	Eastern States Branch, East Hartford	5.92	5.00
6671	Old Deerfield Fertilizer Co., Inc., So. Deerfield, Mass.	John Cranouski, Poquonock	6.07	4.50
6670	O & W. Olds & Whipple, Inc., Hartford, Conn.	John Cranouski, Poquonock	5.32	4.50
6816	Hubbard's. The Rogers & Hubbard Co., Portland, Conn.	The Rogers & Hubbard Co., Portland	5.94	4.50
	Cottonseed Meal			
6667	Ashcraft-Wilkinson Co., Atlanta, Ga.	Out-Post Nurseries, Ridgefield	6.56	6.56
6706	Dixie. Humphreys-Godwin Co., Memphis, Tenn.	E. J. Bantle, Glaston- bury	6.61	6.56
6695	"Lovit 41%". L. B. Lovitt & Co., Memphis, Tenn.	Bloomfield Farmers' Exchange, Bloomfield	6.92	6.56
	Linseed Meal			
6839	37%. Archer-Daniels-Midland Co., Minneapolis, Minn.	Apothecaries Hall Co. East Windsor	5.80	6.00
	Soybean Meal			
6705	Central Star. Central Soya Co., Inc., Fort Wayne, Ind.	E. J. Bantle, Glas-ton- bury	7.70	7.04
7097	Staley's Soy-Al-King. A. E. Staley Mfg Co., Decatur, Ill.	Harry Leibman, Ellington	7.10	6.56

TABLE 3. ANALYSES OF SUPERPHOSPHATE, ETC.

Station No	Manufacturer or Wholesale Dealer	Dealer or Purchaser	Phosphoric acid				
			Citrate-insoluble	Total		"Available"	
				Found	Guaranteed	Found	%
			%	%	%	%	%
Superphosphate							
7067	Acme 16%, The Acme Guano Co., Baltimore, Md.	W. B. Welden, Simsbury	0.60	17.00	16.40	16.00	16.00
6430	Acme 20%, The Acme Guano Co., Baltimore, Md.	Andrew Christensen, Wilson	0.95	22.52	21.57	20.00	20.00
6505	AA 16%, American Agricultural Chemical Co., No. Weymouth, Mass.	American Agricultural Chemical Co., West Haven	0.55	17.37	16.82	16.00	16.00
6502	AA 20%, American Agricultural Chemical Co., No. Weymouth, Mass.	American Agricultural Chemical Co., West Haven	0.83	21.95	21.12	20.00	20.00
6626	Liberty 16%, Apothecaries Hall Co., Waterbury, Conn.	Apothecaries Hall Co., East Windsor	0.30	16.88	16.58	16.00	16.00
6628	20%, Apothecaries Hall Co., Waterbury, Conn.	Apothecaries Hall Co., East Windsor	0.81	21.36	20.55	20.00	20.00
6589	Armour's Big Crop, 20%, Armour Fertilizer Works, New York, N. Y.	Warchouse, East Hartford	0.93	20.82	19.89	20.00	20.00
6521	Baughphos, The Ideal 20%, The Baugh & Sons Co., Baltimore, Md.	Hamden Lehigh Coal Co., Hamden	0.21	20.82	20.61	20.00	20.00
6497	16%, Consolidated Rendering Co., Boston, Mass.	L. T. Frisbie Co., New Haven	0.46	16.62	16.16	16.00	16.00
6423	20%, Consolidated Rendering Co., Boston, Mass.	Cheshire Reformatory, W. Cheshire	0.41	21.43	21.02	20.00	20.00
6492	Davco Granulated 20%, Davison Chemical Corp., Baltimore, Md.	Berkshire Chemical Co., Bridgeport ..	0.86	22.80	21.94	20.00	20.00
6651	Eastern States 20%, Eastern States Farmers' Exchange, Springfield, Mass.	Eastern States Branch, Bethel	0.75	21.41	20.66	20.00	20.00
6701	Eastern States 40%, Eastern States Farmers' Exchange, Springfield, Mass.	Eastern States Branch, East Hartford ..	1.82	39.16	37.34	40.00	40.00
7228	Eastern States 40%, Eastern States Farmers' Exchange, Springfield, Mass.	Eastern States Branch, North Haven ..	1.96	41.96	40.00	40.00	40.00

(Continued)

TABLE 3. ANALYSES OF SUPERPHOSPHATE, ETC.—*Concluded*

Station No.	Manufacturer or Wholesale Dealer	Dealer or Purchaser	Phosphoric acid			
			Citrate-insoluble	Total	"Available"	
					Found	Guaranteed
6922	International 16%o. International Agricultural Corp., Woburn, Mass.	Irving Foote, Norwich	0.59	17.52	16.93	16.00
6824	O & W 16%o. Olds & Whipple, Inc., Hartford, Conn.	Olds & Whipple, Inc., East Hartford	0.40	19.54	19.14	16.00
6891 ¹	O & W 16%o. Olds & Whipple, Inc., Hartford, Conn.	Long Lane Farm, Middletown	0.59	17.60	17.01	16.00
6631 ¹	O & W 20%o. Olds & Whipple, Inc., Hartford, Conn.	Fairfield State Hospital, Newtown ...	0.74	21.59	20.85	20.00
6844	Hubbard's 16%o. The Rogers & Hubbard Co., Portland	The Rogers & Hubbard Co., Portland	0.16	17.60	17.44	16.00
6746	Hubbard's 20%o. The Rogers & Hubbard Co., Portland	Willimantic Grain Co., Willimantic ..	0.03	20.86	20.83	20.00
6563	Summers "Best on Earth" 16%o. Summers Fertilizer Co., Inc., Baltimore, Md.	Laden Bros. Co., Inc., Wallingford ..	0.91	17.74	16.83	16.00
6892 ¹	Summers "Best on Earth" 20%o. Summers Fertilizer Co., Inc., Baltimore, Md.	State Hospital, Middletown	0.26	20.98	20.72	20.00
6558	Woodruff's 16%o. Woodruff Fertilizer Works, Inc., Orange, Conn.	J. P. Beach, North Haven	0.39	17.69	17.30	16.00
6561	Woodruff's 20%o. Woodruff Fertilizer Works, Inc., Orange, Conn.	J. P. Beach, North Haven	0.98	22.34	21.36	20.00
Precipitated Bone						
6841	Apothecaries Hall Co., Waterbury, Conn.	Apothecaries Hall Co., East Windsor ..	1.32	40.64	39.32	38.00
6908	Eastern States, Eastern States Farmers' Exchange, Springfield, Mass.	Henry Johnson, East Hartford	3.67	41.76	38.09	38.00
6913	O & W. Olds & Whipple, Inc., Hartford, Conn.	Olds & Whipple, Inc., East Hartford ..	1.18	38.62	37.44	38.00

¹State Purchase

TABLE 4. ANALYSES OF POTASH SALTS, ETC.

Station No.	Manufacturer and Brand	Sampled from stock of	Potash	
			Found	Guaranteed
	Muriate of Potash		%	%
6506	American Agricultural Chemical Co., No. Weymouth, Mass.	American Agricultural Co., West Haven	51.05	50.00
6858	Trona. American Potash & Chemical Corp., New York, N. Y.	The Rogers & Hubbard Co., Portland	60.90	60.00
6426 ¹	Consolidated Rendering Co., Boston, Mass.	Cheshire Reformatory, West Cheshire	50.04	50.00
6634 ¹	Consolidated Rendering Co., Boston, Mass.	Fairfield State Hos- pital, Newtown	50.28	50.00
6650	Eastern States Farmers' Exchange, Springfield, Mass.	Eastern States Branch, Bethel	61.28	60.00
6593	Bulk. Potash Company of America, Baltimore, Md.	Warehouse, East Hartford	49.48	50.00
	Sulphate of Potash			
6499	Consolidated Rendering Co., Boston, Mass.	L. T. Frisbie Co., New Haven	48.94	48.00
6821	French Potash Co., Inc., Baltimore, Md.	Olds & Whipple, Inc., East Hartford	50.34	48.00
	Cottonhull Ashes²			
6837	Kireal. Ted Alkire, Lubbock, Texas....	Eastern States Farm- ers' Exchange, East Hartford	40.84	30.00
6630	Apothecaries Hall Co., Waterbury, Conn.	Apothecaries Hall Co., East Windsor	30.04	.....³
6554	Berkshire Chemical Co., Bridgeport, Conn.	John Cranouski, Poquonock	30.68	30.00
6857	Eastern States. Eastern States Farm- ers' Exchange, Springfield, Mass. ..	Eastern States Branch, East Hartford	40.64	38.00
6708	Olds & Whipple, Inc., Hartford, Conn.	E. J. Bantle, Glastonbury	29.31	.....³
6822	Olds & Whipple, Inc., Hartford, Conn.	Olds & Whipple, Inc., East Hartford	30.68	.....³

¹State Purchase²Old Deerfield Fertilizer Co., unofficial samples, see text, p. 15.³Sold on unit basis

TABLE 5. ANALYSES OF DRY GROUND FISH, ETC.

Station No.	Manufacturer or Wholesale Dealer	Sampled from stock of	Nitrogen		Phosphoric acid	
			Total found	Total guaranteed	Total found	Total guaranteed
			%	%	%	%
6842	Apothecaries Hall Co., Waterbury, Conn.	Apothecaries Hall Co., East Windsor	8.00 ¹	9.00	11.79	5.00
7139	Apothecaries Hall Co., Waterbury, Conn.	Apothecaries Hall Co., East Windsor	8.84	9.00	9.60	5.00
6907	Eastern States Farmers' Exchange, Springfield, Mass.	Eastern States Farmers' Branch, East Hartford	10.03	9.00	6.62	5.00
6863	Menhaden, Berkshire Chemical Co., Bridgeport, Conn.	Berkshire Chemical Co., Bridgeport...	9.50	9.46	6.59	5.00
6912	O & W. Olds & Whipple, Inc., Hartford, Conn.	Olds & Whipple, Inc., East Hartford..	9.69	9.46	6.15	5.00
6845	Hubbard's, The Rogers & Hubbard Co., Portland, Conn.	The Rogers & Hubbard Co., Portland	9.66	9.46	7.40	5.00

¹Eight purchasers' samples ranged from 8.54 to 10.06 percent nitrogen. See text, p. 16.

TABLE 6. ANALYSES OF TANKAGE AND SIMILAR MATERIALS

Station No.	Manufacturer and Wholesale Dealer	Sampled from stock of	Nitrogen		Phosphoric acid		Mechanical analysis		Station No.
			Total found	Total guaranteed	Total found	Total guaranteed	Finer than 1.50 inch	Coarser than 1.50 inch	
6629	Apothecaries Hall Co., Waterbury, Conn.	Apothecaries Hall Co., East Windsor	9.60	8.22	8.92	3.00	37.2	62.8	6629
6428	Ground. Consolidated Rendering Co., Boston, Mass.	Rand & Christianson, Wilson	9.04	7.40	9.75	9.15	36.5	63.5	6428
7278	Ground. Consolidated Rendering Co., Boston, Mass.	Rand & Christianson, Wilson	8.36	7.40	9.84	9.15	53.5	46.5	7278
6491	Milorganite. Sewerage Commission of the City of Milwaukee, Milwaukee, Wis.	L. H. Gault & Son., Saugatuck	6.06	6.00	3.25 ¹	2.75	.....	.....	6491
6624 ²	Summers "Best on Earth" 7%—Processed, Summers Fertilizer Co., Inc., Baltimore, Md.	Osborn Farm, Somers	7.01	7.00	.....	.....	.....	.....	6624

¹"Available" found 2.66%; guaranteed 2.00%²State Purchase

TABLE 7. ANALYSES OF GROUND BONE

Station No.	Manufacturer and Brand	Sampled from stock of	Nitrogen		Phosphoric acid		Mechanical analysis		Station No.
			Total found	Total guaranteed	Total found	Total guaranteed	Finer than 1.50 inch	Coarser than 1.50 inch	
			%	%	%	%	%	%	
6696	Acme Raw. The Acme Guano Co., Baltimore, Md.	Carpenter & Chapman, Bloomfield	3.60	3.70	23.18	20.00	44.5	55.5	6696
6460	Fine Ground, American Agricultural Chemical Co., No. Weymouth, Mass.	Libner Grain Co., Norwalk	2.65	2.47	26.56	23.00	60.2	39.8	6460
6627	Apothecaries Hall Co., Waterbury, Conn.	Apothecaries Hall Co., East Windsor	2.61	2.25	24.92	22.00	56.7	43.3	6627
6452	Apothecaries Hall Co., Waterbury, Conn.	McArdle Seed Store, Greenwich	3.88	3.70	21.73	20.00	42.6	57.4	6452
6525	Baugh's Pure Steamed. The Baugh & Sons Co., Baltimore, Md.	Hamden Lehigh Coal Co., Hamden	3.00	2.47	25.97	23.00	42.6	57.4	6525
6557	Baugh's Raw, Warranted Pure. The Baugh & Sons Co., Baltimore, Md.	Hamden Lehigh Coal Co., Hamden	3.98	3.70	21.72	20.50	43.4	56.6	6557
6448	Berkshire Fine Ground. Berkshire Chemical Co., Bridgeport, Conn.	Belmont Feed Co., Cos Cob	2.32	2.05	29.28	25.00	59.6	40.4	6448
6424	Corenco Ground. Consolidated Rendering Co., Boston, Mass.	Cheshire Reformatory, West Cheshire	2.92	2.47	24.28	23.00	36.0	64.0	6424
6496	Corenco Raw. Consolidated Rendering Co., Boston, Mass.	Frank S. Platt Co., New Haven	4.00	3.70	23.08	20.00	34.8	65.2	6496
6752	Eastern States Ground Steam. Eastern States Farmers' Exchange, Springfield, Mass.	Eastern States Branch, Willimantic	2.30	2.30	30.10	23.00	68.8	31.2	6752
6435	Faesly & Besthoff, Inc., New York, N. Y.	Silliman Hardware Co., New Canaan	2.38	2.25	29.32	27.00	60.6	39.4	6435

6668	Hoffman's, A. H. Hoffman, Inc., Landisville, Lancaster County, Pa.	Heyman's Hardware Co., Danbury	3.82	3.70	20.28	20.00	34.3	65.7	6668
6915	Fine Ground, Old Deerfield Fertilizer Co., So. Deerfield, Mass.	Rockville Grain & Coal Co., Rockville	2.18	2.47	27.83	22.00	75.5	24.5	6915
6694	O & W. Olds & Whipple, Inc., Hartford, Conn.	Bloomfield Farmers' Exchange, Bloomfield	2.54	2.47	28.90	22.00	66.6	33.4	6694
6747	Hubbard's Fine Ground, The Rogers & Hubbard Co., Portland, Conn.	Willimantic Grain Co., Willimantic	2.26	2.47	29.62	23.00	70.5	29.5	6747
6860	Hubbard's Raw Knuckle Bone Flour. The Rogers & Hubbard Co., Portland, Conn.	The Rogers & Hubbard Co., Portland	4.24	3.70	24.39	24.70	83.0	17.0	6860
6743	Hubbard's Strictly Pure Fine. The Rogers & Hubbard Co., Portland, Conn.	Willimantic Grain Co., Willimantic	3.89	3.70	22.24	20.00	48.4	51.6	6743
6440	Sawco. Stumpp & Walter Co., New York, N. Y.	Stumpp & Walter Co., Stamford	2.85	2.47	26.19	24.00	60.6	39.4	6440
6658	Swift & Co., Baltimore, Md.	H. E. Meeker, Danbury	2.74	2.47	26.70	23.00	53.8	46.2	6658

¹Contained 2.56% chlorine²State Purchase

TABLE 8. ANALYSES OF MIXED FERTILIZERS

Station No.	Manufacturer and Brand	Place of Sampling	Acid-forming (A) Non-acid-forming (NA) or near neutral (N)
The Acme Guano Co. Baltimore, Md.			
6893	Acme 3-10-4	Middletown	A
6917	Acme 3-12-6	Bloomfield	A
6619	Acme 4-8-4	Thompsonville	A
6698	Acme Vitaflor 4-8-5	Bloomfield	N
7118	Acme Vitaflor 4-8-5	Bloomfield	N
6770	Acme 4-8-10	Norwich	A
6429	Acme 5-8-7	Wilson	A
6771	Acme 5-8-7	Norwich	A
7277	Acme 5-8-7	Wilson	A
7066	Acme 5-8-10	Simsbury	A
6697	Acme 7-7-7	Bloomfield	A
6954	Acme 7-7-7	Norwich	A
American Agricultural Chemical Co., No. Weymouth, Mass.			
6815	AA Double Strength Fertilizer 8-16-14	West Haven	A
6709	AA Market Garden Fertilizer 4-8-4	Manchester	A
6712	AA Potato and Root Crop Fertilizer 4-8-10	Manchester	A
6458	AA Potato and Vegetable Fertilizer 5-8-7	Norwalk	A
7113	AA Tobacco Starter 5-5-15	West Haven	NA
6459	AA Top Dresser 7-7-7	Norwalk	A
6742	Agrico for Aroostook with 10% Potash 5-8-10....	Manchester	A
6817	Agrico for Corn 3-10-6	West Haven	A
6774	Agrico for Corn 4-12-6	Groton	A
6816	Agrico Country Club Fertilizer 8-6-2	West Haven	A
6808	Agrico Country Club Fertilizer 8-6-4	Guilford	A
7208	Agrico Country Club Fertilizer 8-6-4	West Haven	A
6711	Agrico for Fruit 8-8-4	Manchester	A
6500	Agrico for Gardeners 4-10-4	West Haven	N
6501	Agrico for Lawns, Trees and Shrubs 7-7-5	West Haven	A
6741	Agrico for New England 4-8-10	Manchester	A
6620	Agrico for Potatoes and Vegetables 5-8-7	Thompsonville	A
6710	Agrico for Seeding Down 4-16-20	Manchester	A
6888	Agrico for Tobacco 6-3-6	West Haven	NA
6504	Agrico for Top Dressing 7-7-7	West Haven	A
6889	Agrico for Top Dressing 7-7-7	West Haven	A
6438	Agrico for Truck 5-10-5	New Canaan	A
6457	Bradley X.L. Fertilizer 3-10-4	Norwalk	A
6887	Double A Tobacco Fertilizer 5-3-5	West Haven	N
6886	Sanderson's Formula B 4-8-7	West Haven	NA
American Cyanamid Co., New York, N. Y.			
6517	'Ammono-Phos', 11-48-0	Orange .....	.....

Nitrogen					Phosphoric Acid			Potash		Station No.
In nitrates	In ammonia	Organic water-soluble	Organic water insoluble	Total	Citrate-Insoluble	Total	So-called "Available"	As muriate	Total	
%	%	%	%	%	%	%	%	%	%	
0.00	2.06	0.69	0.27	3.02	0.62	10.79	10.17	3.39	4.26	6893
0.00	0.28	2.49	0.29	3.06	0.72	12.73	12.01	6.98	6.98	6917
0.00	2.12	1.73	0.24	4.09	0.68	9.10	8.42	2.71	4.26	6619
0.00	0.28	1.48	3.54	5.30	3.16	8.98	5.82	7.79	7.79	6698
0.00	0.40	1.30	3.57	5.27	3.29	9.42	6.13	6.08	6.08	7118
0.00	3.12	0.54	0.29	3.95	0.45	8.86	8.41	9.73	9.73	6770
0.65	3.16	1.00	0.30	5.11	0.42	8.42	8.00	3.81	6.12	6429
0.69	3.26	0.76	0.26	4.97	0.33	8.36	8.03	4.17	6.33	6771
0.07	2.00	2.00	0.55	4.62	0.48	8.91	8.43	4.59	6.99	7277
0.19	3.28	0.78	0.25	4.50	0.44	9.20	8.76	9.05	9.45	7066
0.83	3.12	1.04	0.27	5.26	0.27	8.55	8.28	3.84	5.82	6697
1.10	3.44	0.88	0.34	5.76	0.50	8.39	7.89	8.67	8.67	6954
0.00	7.72	0.26	0.13	8.11	0.55	15.42	14.87	14.47	14.47	6815
0.62	2.80	0.20	0.35	3.97	0.76	9.01	8.25	4.29	4.29	6709
0.66	3.06	0.18	0.18	4.08	0.76	8.86	8.10	10.06	10.06	6712
0.51	3.76	0.22	0.35	4.84	0.89	9.77	8.88	6.95	6.95	6458
2.71	0.00	0.32	1.87	4.90	0.33	5.77	5.44	0.68	15.41	7113
0.44	5.88	0.16	0.35	6.83	0.39	7.55	7.16	6.96	6.96	6459
0.62	3.78	0.26	0.38	5.04	0.81	9.27	8.46	10.01	10.01	6742
0.00	2.38	0.12	0.30	2.80	0.96	10.90	9.94	5.85	5.85	6817
0.62	2.90	0.14	0.34	4.00	1.18	13.25	12.07	6.10	6.10	6774
0.78	3.60	0.76	2.92	8.06	0.30	6.40	6.10	2.48	2.48	6816
0.59	6.48	0.00	0.63	7.70	0.39	6.90	6.51	4.00	4.00	6808
0.52	6.48	0.10	0.72	7.82	0.44	7.05	6.61	4.19	4.19	7208
1.28	6.00	0.64	0.07	7.99	0.58	8.39	7.81	1.01	4.15	6711
0.00	2.92	0.22	0.94	4.08	0.80	11.75	10.95	4.01	4.01	6500
0.69	4.68	0.32	1.40	7.09	0.76	8.10	7.34	5.16	5.16	6501
0.64	3.08	0.26	0.18	4.16	0.82	9.25	8.43	10.08	10.08	6741
0.69	3.72	0.16	0.39	4.96	0.47	8.41	7.94	7.21	7.21	6620
0.73	3.00	0.22	0.05	4.00	0.48	16.43	15.95	20.26	20.26	6710
0.64	0.16	1.60	3.60	6.00	0.44	3.56	3.12	0.54	6.07	6888
0.65	5.80	0.08	0.35	6.88	0.47	7.55	7.08	6.92	6.92	6504
0.53	5.96	0.20	0.15	6.84	0.69	7.95	7.26	7.17	7.17	6889
0.58	3.82	0.30	0.39	5.09	0.75	11.08	10.33	5.33	5.33	6438
0.40	2.16	0.23	0.29	3.08	0.76	11.11	10.35	4.72	4.72	6457
0.57	0.68	1.40	2.53	5.18	0.41	5.20	4.79	1.09	5.68	6887
1.84	0.64	0.20	1.42	4.10	0.40	8.81	8.41	1.14	7.76	6886
0.00	8.76	1.68	0.50	10.94	0.80	51.38	50.58	.....	.....	6517

TABLE 8. ANALYSES OF MIXED FERTILIZERS—Continued

Station No.	Manufacturer and Brand	Place of Sampling	Acid forming (A) Non-acid forming (NA) or near neutral (N)
Apothecaries Hall Co., Waterbury, Conn.			
6838	Liberty Corn Fertilizer 3-12-6	East Windsor	A
5569 ¹	Liberty Fertilizer 4-16-4	Portland	
6582	Liberty Green-Gro 6-5-3	Yalesville	A
5570 ¹	Liberty Fertilizer 10-5-5	Portland	
5571 ¹	Liberty High Grade Corn Fertilizer 4-12-4	Portland	
6767	Liberty High Grade Market Gardeners 5-8-7	Yantic	N
7100	Liberty High Grade Tobacco Manure 7-3-7	East Windsor	NA
6454	Liberty Market Gardeners Special 4-8-4	Greenwich	A
6749	Liberty Potato and General Crop 4-8-10	Willimantic	NA
6625	Liberty Special Fertilizer for Fruit and Grass 7-7-7	East Windsor	A
6622	Liberty Special Fertilizer for Lawns, etc. 4-4-0.....	East Windsor	NA
7098	Liberty Tobacco Mixture 5-3-5	East Windsor	NA
6906	Liberty Tobacco Mixture 6-3-6	East Windsor	NA
6905	Liberty Tobacco Mixture 6-3-7	East Windsor	NA
7099	Liberty Tobacco Starter with Potash 5-5-15	East Windsor	NA
6623	Liberty Top Dresser for Grass and Grain 8-8-8..	East Windsor	A
6840	Liberty Tree and Shrub Food 10-8-8	East Windsor	A
Armour Fertilizer Works, New York, N. Y.			
6591	Armour's Big Crop Fertilizer 3-12-6	East Hartford	A
6919	Armour's Big Crop Fertilizer 4-8-10	West Hartford	A
6588	Armour's Big Crop Fertilizer 5-8-7	East Hartford	A
6918	Armour's Big Crop Fertilizer 5-10-10	West Hartford	A
6853	Armour's Big Crop Fertilizer 7-7-7	West Hartford	A
7072	Armour's Big Crop Tobacco Special 5-3-5	West Hartford	NA
7073	Armour's Big Crop Tobacco Special 6-3-6	West Hartford	NA
7074	Armour's Big Crop Tobacco Special 7-3-7	West Hartford	N
7119	Armour's Big Crop Tobacco Starter 5-5-15	West Hartford	NA
6914	Armour's Fertilizer 8-16-16	Buckland	A
Associated Seed Growers, Inc., New Haven, Conn.			
6512	Clark's 3-10-6 Fertilizer	Milford	NA
6511	Clark's 5-10-5 Fertilizer	Milford	N
6510	Clark's Tip Top Fertilizer 5-8-7	Milford	A
F. A. Bartlett Tree Expert Co., Stamford, Conn.			
6455	Bartlett Green Tree Food 6-7-4	Stamford	A

¹State Purchase

Nitrogen					Phosphoric Acid			Potash		Station No.
In nitrates	In ammonia	Organic water-soluble	Organic water-insoluble	Total	Citrate-insoluble	Total	So-called "Available"	As muriate	Total	
%	%	%	%	%	%	%	%	%	%	
0.63	1.54	0.42	0.69	3.28	0.25	12.75	12.50	6.62	6.62	6838
1.01	2.82	0.06	0.61	4.50	0.42	17.70	17.28	5.09	5.09	5569
0.91	1.72	1.64	2.49	6.76	0.35	6.70	6.35	3.94	3.94	6582
8.08	1.56	0.34	0.63	10.61	0.13	5.87	5.74	0.64	5.16	5570
2.03	1.22	0.58	0.67	4.50	0.29	12.79	12.50	3.69	4.96	5571
0.64	3.68	0.08	0.70	5.10	0.10	8.71	8.61	7.29	7.29	6767
1.09	0.10	2.16	3.61	6.96	0.50	4.78	4.28	0.47	8.32	7100
0.24	2.88	0.52	0.64	4.28	0.24	8.77	8.53	4.15	4.15	6454
1.01	2.62	0.08	0.45	4.16	0.20	8.82	8.62	9.52	9.52	6749
0.57	5.80	0.06	0.59	7.02	0.16	7.85	7.69	7.38	7.38	6625
0.13	0.00	0.40	4.35	4.88	2.80	9.99	7.19	.....	.....	6622
1.60	0.00	0.58	3.12	5.30	0.40	5.30	4.90	0.45	6.21	7098
0.51	0.12	2.68	2.81	6.12	0.54	4.78	4.24	0.72	6.57	6906
0.56	0.12	1.88	3.47	6.03	0.49	4.53	4.04	0.49	8.28	6905
1.26	0.08	1.80	1.89	5.03	0.55	7.21	6.66	0.76	16.74	7099
0.79	6.48	0.18	0.75	8.20	0.12	8.81	8.69	8.56	8.56	6623
0.00	8.96	0.46	1.28	10.70	0.17	8.71	8.54	9.27	9.27	6840
0.46	1.90	0.07	0.40	2.83	0.70	12.50	11.80	6.16	6.16	6591
0.61	2.64	0.12	0.60	3.97	0.56	8.85	8.29	9.83	9.83	6919
0.63	3.40	0.16	0.75	4.94	0.62	8.69	8.07	7.09	7.09	6588
0.78	3.40	0.20	0.65	5.03	0.64	10.85	10.21	9.64	9.64	6918
0.64	5.36	0.20	0.62	6.82	0.46	8.00	7.54	6.44	6.44	6853
1.20	0.12	1.28	2.28	4.88	0.38	3.84	3.46	0.62	5.66	7072
1.36	0.04	1.12	3.45	5.97	0.37	4.75	4.38	0.54	6.57	7073
1.51	0.16	2.12	3.21	7.00	0.34	4.27	3.93	0.76	8.00	7074
1.93	0.40	1.60	1.01	4.94	0.33	6.59	6.26	1.22	14.40	7119
0.65	6.94	0.06	0.15	7.80	0.29	16.78	16.49	15.72	15.72	6914
0.15	2.52	0.36	0.22	3.25	0.44	10.44	10.00	5.48	5.48	6512
0.92	2.64	1.00	0.92	5.48	0.64	10.60	9.96	5.71	5.71	6511
0.63	3.04	0.52	0.91	5.10	0.35	8.51	8.16	7.07	7.07	6510
0.99	4.80	0.08	0.91	6.78	1.65	10.20	8.55	4.28	4.28	6455

TABLE 8. ANALYSES OF MIXED FERTILIZERS—*Continued*

Station No.	Manufacturer and Brand	Place of Sampling	Acid-forming (A) Non-acid forming (NA) or near neutral (N)
The Baugh & Sons Co., Baltimore, Md.			
6526	Baugh's $\frac{3}{4}$ Century Perfection 3-10-6	Hamden	N
6524	Baugh's Fish Bone and Potash Mixture 4-8-4	Hamden	A
6522	Baugh's Old Dependable Potato Grower 4-8-10..	Hamden	N
6900	Baugh's Old Dependable Potato Grower 4-8-10..	Hamden	N
6520	Baugh's Peruvian Guano Substitute 5-8-7	Hamden	A
6519	Baugh's Special Top Dresser 7-6-6	Hamden	A
6523	Baugh's Truckers Favorite 5-10-5	Hamden	A
6901	Baugh's Truckers Favorite 5-10-5	Hamden	A
Berkshire Chemical Co., Bridgeport, Conn.			
6884	Berkshire Fertilizer 4-8-4	New Canaan	A
6864	Berkshire Fertilizer 4-8-7	Bridgeport	A
6807	Berkshire Fertilizer 5-8-7	Guilford	A
6664	Berkshire Fertilizer 5-10-5	Greenwich	NA
6665	Berkshire Fertilizer 5-10-5	Greenwich	NA
7259	Berkshire Fertilizer 5-10-5	Greenwich	NA
7260	Berkshire Fertilizer 5-10-5	Greenwich	N
7116	Berkshire Fertilizer 6-3-6	Bridgeport	NA
7110	Berkshire Fertilizer 7-7-7	Guilford	A
6449	Berkshire Fertilizer Grass Special 6-6-5	Cos Cob	N
6433	Berkshire Golf Green Fertilizer 8-5-2	New Canaan	A
Consolidated Rendering Co., Boston, Mass.			
6814	Corenco 3-10-4 Animal Brand	New Haven	N
6613 ¹	Corenco 3-10-6	Somers	A
6775 ¹	Corenco 3-10-6	Niantic	A
6809	Corenco 4-8-4 Corn and Vegetable	New Haven	A
6655	Corenco 4-8-7 Market Garden	Bethel	N
6773 ¹	Corenco 4-8-7 Market Garden	Norwich	A
6656	Corenco 4-8-10 Potato Grower	Bethel	N
6867 ¹	Corenco 4-8-10 Potato Grower	West Cheshire	N
6813	Corenco 5-5-5 Lawn and Shrub	New Haven	A
7218	Corenco 5-5-5 Lawn and Shrub	New Haven	A
7063	Corenco 5-5-15 Tobacco Starter	New Haven	NA
6059 ¹	Corenco 5-8-7 General Crop Manure	Portland	
6803	Corenco 5-8-7 General Crop Manure	Wilson	A
6804 ¹	Corenco 5-8-7 General Crop Manure	Somers	A
6635 ¹	Corenco 5-8-7 General Crop Manure	Newtown	A
6810	Corenco 5-8-10 Peerless Potato	New Haven	A
6868 ¹	Corenco 5-8-10 Peerless Potato	West Cheshire	A
6632 ¹	Corenco 5-10-5 Super Truck	Newtown	A

¹State Purchase.

Nitrogen					Phosphoric Acid			Potash		Station No.
In nitrates	In ammonia	Organic water-soluble	Organic water-insoluble	Total	Citrate-insoluble	Total	So-called "Available"	As muriate	Total	
%	%	%	%	%	%	%	%	%	%	
0.16	2.20	0.46	0.18	3.00	0.86	11.39	10.53	6.03	6.03	6526
0.24	2.94	0.68	0.24	4.10	0.65	9.05	8.40	4.40	4.40	6524
0.36	2.72	0.60	0.20	3.88	0.63	9.00	8.37	10.66	10.66	6522
0.49	2.70	0.56	0.19	3.94	0.45	8.50	8.05	10.21	10.21	6900
0.22	3.48	0.58	0.72	5.00	0.76	8.97	8.21	7.89	7.89	6520
3.53	2.60	0.48	0.53	7.14	0.55	7.02	6.47	6.57	6.57	6519
0.45	3.65	0.58	0.13	4.82	1.01	11.56	10.55	4.61	4.61	6523
0.27	3.52	0.68	0.19	4.66	1.03	11.16	10.13	4.91	4.91	6901
0.00	4.20	0.45	0.34	4.99	1.16	9.24	8.08	5.77	5.77	6884
0.00	3.05	0.81	0.23	4.10	0.22	8.77	8.55	7.22	7.22	6864
0.00	3.72	1.02	0.18	4.92	0.40	8.42	8.02	7.20	7.20	6807
0.61	1.85	1.12	1.27	4.85	0.55	10.55	10.00	6.74	6.74	6664
0.61	2.04	0.72	1.31	4.68	0.45	10.46	10.01	6.63	6.63	6665
0.61	2.00	1.14	1.41	5.16	0.56	10.84	10.28	6.62	6.62	7259
0.52	2.12	1.40	1.41	5.45	0.49	11.24	10.75	6.38	6.38	7260
0.55	0.08	1.30	3.61	5.54	0.33	3.61	3.28	0.56	5.83	7116
0.15	5.84	1.08	0.21	7.28	0.25	7.86	7.61	4.62	7.31	7110
0.00	4.82	0.93	0.22	5.97	0.22	6.81	6.59	4.81	5.40	6449
0.18	2.24	1.92	3.97	8.31	0.57	6.91	6.34	1.74	2.62	6433
0.84	0.98	1.14	0.08	3.04	0.54	10.82	10.28	4.05	4.05	6814
0.30	2.18	0.50	0.05	3.03	0.30	10.61	10.31	6.19	6.19	6613
0.15	2.38	0.48	0.08	3.09	0.16	10.61	10.45	6.05	6.05	6775
1.01	2.08	0.84	0.12	4.05	0.56	8.66	8.10	3.97	3.97	6809
0.96	1.92	1.06	0.08	4.02	0.13	8.26	8.13	6.71	6.71	6655
0.23	3.36	0.62	0.09	4.30	0.15	8.46	8.31	6.87	6.87	6773
0.94	2.24	0.72	0.16	4.06	0.34	8.31	7.97	10.11	10.11	6656
0.93	2.22	0.74	0.12	4.01	0.32	8.48	8.16	10.10	10.10	6867
0.85	1.20	0.86	1.79	4.70	0.36	6.34	5.98	5.73	5.73	6813
0.94	1.40	0.75	1.86	4.95	0.34	6.59	6.25	5.61	6.16	7218
1.56	0.00	1.28	2.40	5.24	0.21	5.82	5.61	2.39	16.91	7063
0.50	3.86	0.70	0.07	5.13	0.30	8.65	8.35	.....	7.07	6059
0.85	2.88	1.12	0.11	4.96	0.35	8.80	8.45	6.59	6.59	6803
0.47	3.78	0.82	0.07	5.14	0.27	8.66	8.39	6.88	6.88	6801
0.50	3.96	0.56	0.10	5.12	0.26	8.61	8.35	6.98	6.98	6635
0.85	3.24	0.80	0.20	5.10	0.77	8.59	7.82	10.00	10.00	6810
0.41	3.90	0.78	0.07	5.16	0.16	8.53	8.37	10.03	10.03	6868
0.67	3.68	0.76	0.07	5.18	0.27	10.76	10.49	5.19	5.19	6632

TABLE 8. ANALYSES OF MIXED FERTILIZERS—*Continued*

Station No.	Manufacturer and Brand	Place of Sampling	Acid-forming (A) Non-acid-forming (NA) or near neutral (N)
7152 ¹	Corenco 5-10-5 Super Truck	Niantic	A
7064	Corenco 6-3-6 Special Tobacco Grower	New Haven	NA
6058 ¹	Corenco 7-6-6 Complete Fruit and Top Dressing	Portland .....	.....
6427 ¹	Corenco 7-6-6 Complete Fruit and Top Dressing	West Cheshire	A
6633 ¹	Corenco 7-6-6 Complete Fruit and Top Dressing	Newtown	A
7115 ¹	Corenco 8-16-14 Two-in-One	Somers	A
6805 ¹	Corenco 8-16-14 Two-in-One	Niantic	A
The Davey Tree Expert Co., Kent, Ohio			
6446	Davey Tree Food 12-4-4	Old Greenwich	A
7117	Davey Tree Food 12-4-4	Old Greenwich	A
The Davison Chemical Corp., Baltimore, Md.			
6862	Davco Granulated Fertilizer 5-8-7	Bridgeport	A
6493	Davco Granulated Fertilizer 6-6-5	Bridgeport	NA
Eastern States Farmers' Exchange, Springfield, Mass.			
6700	Eastern States 0-20-20	East Hartford	NA
7140	Eastern States 0-20-20	East Hartford	NA
6702	Eastern States 4-16-20	East Hartford	N
7114	Eastern States 5-5-15 Tobacco	Portland	NA
6652	Eastern States 5-10-5	Bethel	A
6704	Eastern States 5-10-10	East Hartford	A
6703	Eastern States 5-15-5	East Hartford	A
6654	Eastern States 7-7-7	Bethel	A
6772	Eastern States 7-14-21	Norwich	A
7096	Eastern States 8-4-8 Tobacco	East Hartford	NA
6820	Eastern States 8-16-8	Torrington	A
6766	Eastern States 8-16-16	Willimantic	A
7209	Eastern States 8-16-16	North Haven	A
6920	Eastern States 8-16-16 LCS (Low Chlorine Special)	So. Glastonbury	A
6653	Eastern States 8-24-8	Bethel	A
6826	Eastern States 10-5-5	East Hartford	A
6751	Eastern States 10-10-10	Willimantic	A
Goulard & Olen, Inc., New York, N. Y.			
6585	G & O Lawn-Garden and Flower Fertilizer 5-8-5	New Britain	N
6584	J. B. Greens Fertilizer 10-4-3	New Britain	A

¹State purchase.

Nitrogen					Phosphoric Acid			Potash		Station No.
In nitrates	In ammonia	Organic water-soluble	Organic water-insoluble	Total	Citrate-insoluble	Total	So-called "Available"	As muriate	Total	
%	%	%	%	%	%	%	%	%	%	
0.44	3.76	0.76	0.06	5.02	0.30	10.90	10.60	5.15	5.15	7152
0.95	0.08	2.16	2.81	6.00	0.30	4.50	4.20	0.86	7.83	7064
0.51	5.36	0.92	0.07	6.86	0.17	6.64	6.47	.....	6.07	6058
0.85	5.28	0.72	0.09	6.94	0.30	6.76	6.46	6.12	6.12	6427
0.90	5.04	0.84	0.16	6.94	0.46	6.50	6.04	5.99	5.99	6633
0.85	5.76	1.00	0.14	7.75	0.57	16.73	16.16	14.71	14.71	7115
0.91	5.80	0.96	0.13	7.80	0.64	16.70	16.06	14.04	14.04	6805
1.41	9.48	0.00	0.93	11.82	0.26	4.40	4.14	4.03	4.44	6446
1.24	9.20	0.10	1.04	11.58	0.16	5.18	5.02	3.12	4.25	7117
0.11	4.56	0.16	0.07	4.90	0.30	8.31	8.01	7.12	7.12	6862
0.00	5.52	0.33	0.07	5.92	0.33	6.34	6.01	4.87	4.87	6493
.....	.....	.....	.....	.....	0.42	19.84	19.42	21.58	21.58	6700
.....	.....	.....	.....	.....	0.38	20.59	20.21	19.94	20.50	7140
1.13	3.04	0.00	0.25	4.42	0.54	19.59	19.05	17.72	17.72	6702
2.61	0.08	0.56	2.63	5.88	0.12	4.97	4.85	1.05	15.90	7114
1.28	3.76	0.28	0.29	5.61	0.63	11.39	10.76	5.53	5.53	6652
1.36	3.82	0.12	0.20	5.50	0.56	10.76	10.20	10.76	10.76	6704
0.00	3.54	1.49	0.24	5.27	1.30	16.15	14.85	5.60	5.60	6703
1.67	5.00	0.30	0.35	7.32	0.37	8.35	7.98	7.67	7.67	6654
1.63	4.62	0.46	0.43	7.14	0.25	13.96	13.71	22.26	22.26	6772
1.10	0.28	3.72	3.18	8.28	0.32	4.99	4.67	0.72	8.37	7096
1.85	5.84	0.18	0.27	8.14	0.55	16.01	15.46	9.26	9.26	6820
2.26	6.00	0.00	0.20	8.46	0.19	15.28	15.09	17.33	17.33	6766
2.10	5.72	0.18	0.26	8.26	0.25	16.50	16.25	16.98	16.98	7209
1.98	5.56	0.20	0.22	7.96	0.25	15.50	15.25	1.44	17.91	6920
0.00	6.32	1.71	0.30	8.33	0.63	23.32	22.69	9.59	9.59	6653
3.02	6.68	0.12	0.29	10.11	0.23	6.02	5.79	5.76	5.76	6826
2.56	7.24	0.24	0.28	10.32	0.03	10.23	10.20	7.97	10.84	6751
0.23	3.96	0.14	0.60	4.93	0.92	9.01	8.09	4.60	5.30	6585
0.00	3.00	4.88	2.44	10.32	2.96	8.86	5.90	4.11	4.11	6584

TABLE 8. ANALYSES OF MIXED FERTILIZERS—*Continued*

Station No.	Manufacturer and Brand	Place of Sampling	Acid-forming (A) Non-acid-forming (NA) or near neutral (N)
	International Agricultural Corp., Woburn, Mass.		
6769	International 4-8-4	Norwich	A
6768	International 4-8-10	Norwich	A
6924	International 5-8-7	Norwich	A
6921	International 6-12-12-2 ¹	Norwich	N
6923	International 7-6-6	Norwich	A
	Killen & Hall, Inc., Darien, Conn.		
6456	Killen & Hall Tree Food 8-5-2	Darien	A
	McArdle Seed Store, Greenwich, Conn.		
6451	McArdle Special Fertilizer 6-5-3	Greenwich	A
	Olds & Whipple, Inc., Hartford, Conn.		
6823	Luxura 5-8-6	East Hartford	A
6916	O & W 3-10-4 Corn Special Fertilizer	Bloomfield	NA
6691	O & W 4-8-4 Market Garden Fertilizer	Bloomfield	NA
7101	O & W 4-8-7 Potato and General Purpose	East Hartford	NA
7059	O & W 5-3-5 Complete Tobacco Fertilizer	Suffield	NA
7107	O & W 5-5-15 High Grade Tobacco Starter and Potash Compound	Wapping	NA
6693	O & W 5-8-7 Potato and General Purpose Fertilizer	Bloomfield	A
7106	O & W 5-10-10 Fertilizer	Ellington	A
7103	O & W 6-3-6 Blue Label Tobacco Fertilizer	East Hartford	NA
7105	O & W 6-3-6 Blue Label Tobacco Fertilizer, Potash derived from Cottonhull Ashes	East Hartford	NA
7101	O & W 6-3-7 Special Tobacco Fertilizer	East Granby	NA
6692	O & W 7-7-7 Top Dressing and Grass Fertilizer	Bloomfield	A
7102	O & W 8-16-16 Fertilizer	Bolton	A
	Old Deerfield Fertilizer Co., Inc., So. Deerfield, Mass.		
6616	Old Deerfield 4-8-7	Hazardville	N
7070	Old Deerfield 5-3-5	Suffield	NA
7071	Old Deerfield 5-5-15	Suffield	NA
6615	Old Deerfield 5-8-7	Hazardville	N
7068	Old Deerfield 6-3-7	Granby	N
6617	Old Deerfield 7-7-7	Hazardville	A

¹Guaranteed 2% MgO; found 2.63%.

Nitrogen					Phosphoric Acid			Potash		Station No.
In nitrates	In ammonia	Organic water-soluble	Organic water-insoluble	Total	Citrate-insoluble	Total	So-called "Available"	As muriate	Total	
%	%	%	%	%	%	%	%	%	%	
0.68	2.44	0.60	0.20	3.92	0.42	8.55	8.13	3.54	4.02	6769
0.65	2.40	0.64	0.19	3.88	0.48	8.75	8.27	9.00	9.81	6768
0.75	3.32	0.68	0.21	4.96	0.32	8.40	8.08	6.50	7.17	6924
1.90	2.56	0.64	0.82	5.96	0.20	12.08	11.88	10.76	12.70	6921
0.65	5.00	0.45	0.43	6.53	0.40	6.75	6.35	5.61	6.02	6923
0.41	4.72	0.28	2.59	8.00	0.16	5.85	5.69	2.29	2.29	6456
0.79	1.58	1.30	2.54	6.21	0.20	6.74	6.54	3.27	4.58	6451
0.47	2.32	0.40	2.20	5.39	1.86	12.09	10.23	0.57	7.28	6823
0.66	1.70	0.02	0.72	3.10	0.62	11.05	10.43	4.47	4.47	6916
0.51	2.40	0.40	0.72	4.03	0.73	9.55	8.82	4.52	4.52	6691
0.70	2.26	0.46	0.66	4.08	0.60	8.80	8.20	7.07	7.07	7101
0.76	0.04	0.88	3.50	5.18	0.21	3.74	3.53	0.70	5.97	7069
1.56	0.00	2.00	1.70	5.26	0.46	6.02	5.56	1.44	15.78	7107
0.60	3.04	0.64	0.70	4.98	0.42	9.22	8.80	7.84	7.84	6693
0.69	2.92	0.72	1.00	5.33	0.63	10.79	10.16	10.05	10.05	7106
0.74	0.00	1.24	4.16	6.14	0.44	4.12	3.68	0.60	6.64	7103
0.72	0.04	1.74	3.54	6.04	0.37	4.08	3.71	0.65	6.47	7105
0.63	0.08	1.20	4.11	6.02	0.35	3.96	3.61	0.62	7.27	7104
2.80	3.46	0.18	0.54	6.98	0.23	8.04	7.81	8.63	8.63	6692
0.87	3.32	2.72	0.80	7.71	0.59	15.70	15.11	17.85	17.85	7102
0.65	1.36	1.28	0.89	4.18	0.42	9.87	9.45	8.14	8.14	6616
0.50	0.40	0.56	3.90	5.36	0.27	4.37	4.10	0.62	6.09	7070
0.51	0.44	2.20	1.90	5.05	0.61	7.31	6.70	1.42	15.78	7071
0.72	1.92	1.80	0.83	5.27	0.39	10.13	9.74	7.90	7.90	6615
0.80	0.32	1.56	4.14	6.82	0.49	5.50	5.01	0.92	7.97	7068
1.58	3.68	1.38	0.58	7.22	0.24	8.11	7.87	7.69	7.69	6617

TABLE 8. ANALYSES OF MIXED FERTILIZERS—Continued

Station No.	Manufacturer and Brand	Place of Sampling	Acid-forming (A) Non-acid-forming (NA) or near neutral (N)
	Outpost Nurseries, Inc., Ridgefield, Conn.		
6666	Outpost Plant Food 8-5-2	Ridgefield	A
	Plantspur Products Co., Ridgefield, N. J.		
6866	Plantspur Fertilizer 3-3-2	New Haven	A
	Frank S. Platt Co., Inc., New Haven, Conn.		
6494	Platco 5-8-7 Fertilizer	New Haven	A
6495	Platt's 10-5-5 Special Lawn Fertilizer	New Haven	N
	The Rogers & Hubbard Co., Portland, Conn.		
6811	Gro-Fast Plant Food 5-6-6	New Haven	NA
6894	Hubbard's All Soils Fertilizer 4-8-4	Portland	NA
7109	Hubbard's Climax Tobacco Fertilizer 5-3-5	Portland	NA
6895	Hubbard's Corn Fertilizer 4-8-7	Portland	N
7108	Hubbard's Corn and Grain Fertilizer 3-10-4	Portland	NA
6744	Hubbard's Golf Course Fertilizer 8-6-2	Willimantic	NA
6587	Hubbard's High Potash Fertilizer 4-8-10	New Britain	N
6586	Hubbard's Potato Fertilizer 5-8-7	New Britain	N
6902	Hubbard's Tobacco Grower 6-3-6	Portland	NA
7220	Hubbard's Top Dressing 8-5-8	Portland	NA
6847	Hubbard's Vegetable Manure 5-8-10	Portland	N
6689	Red H 4-8-4	Hartford	NA
6848	Red H Brand 4-8-7	Portland	NA
7211	Red H Brand 4-8-7	Portland	N
6806	Red H Brand 4-8-10	Guilford	NA
7230	Red H Brand 4-8-10	Portland	NA
6748	Red H Brand 5-8-7	Willimantic	NA
7229	Red H Brand 5-8-7	Portland	N
6659	Red H Brand 7-7-7	Danbury	A
	O. M. Scott & Sons Co., Marysville, Ohio		
6568	Scott's Turf Builder 10-6-4	Yalesville	A
	M. L. Shoemaker & Co., Philadelphia, Pa.		
6621	M. L. Shoemaker's "Swift-Sure" 4-10-0 Tobacco Starter	Thompsonville	NA

Nitrogen					Phosphoric Acid			Potash		Station No.
In nitrates	In ammonia	Organic water-soluble	Organic water-insoluble	Total	Citrate-insoluble	Total	So-called "Available"	As muriate	Total	
%	%	%	%	%	%	%	%	%	%	
0.41	2.06	2.20	3.67	8.34	0.59	6.86	6.27	3.01	3.55	6666
0.00	2.20	1.34	0.46	4.00	0.35	3.58	3.23	1.71	1.71	6866
0.93	3.32	0.76	0.13	5.14	0.44	8.75	8.31	6.97	6.97	6494
1.40	3.04	3.76	2.12	10.32	0.63	7.11	6.48	0.58	5.75	6495
0.00	2.20	0.63	2.59	5.42	0.64	6.65	6.01	6.14	7.30	6811
0.48	1.60	1.24	0.64	3.96	0.91	9.30	8.39	4.18	4.18	6894
0.76	0.04	1.68	2.86	5.34	0.20	3.60	3.40	0.82	5.94	7109
0.55	1.62	0.52	1.52	4.21	0.93	9.61	8.68	7.26	7.26	6895
0.53	1.11	0.95	0.65	3.24	0.81	11.45	10.64	4.66	4.66	7108
0.23	1.36	3.12	3.73	8.44	1.09	8.90	7.81	1.54	2.00	6744
0.52	1.76	1.32	0.71	4.31	0.90	9.41	8.51	9.93	9.93	6587
0.62	1.72	1.36	1.31	5.01	0.94	9.70	8.76	7.40	7.40	6586
0.97	0.08	1.68	3.41	6.14	0.50	4.43	3.93	0.88	7.13	6902
7.32	0.18	0.30	0.42	8.22	0.65	7.09	6.44	7.83	7.83	7220
0.89	1.88	1.20	1.07	5.04	1.54	11.59	10.05	1.62	10.64	6847
0.60	2.72	0.60	0.42	4.34	0.57	9.19	8.62	4.12	4.12	6689
0.60	2.88	0.52	0.43	4.43	0.56	9.17	8.61	6.60	6.60	6848
0.33	2.70	0.76	0.43	4.22	0.75	9.40	8.65	6.61	6.61	7211
0.57	2.76	0.48	0.39	4.20	0.50	9.19	8.69	9.47	9.47	6806
0.44	2.80	0.64	0.30	4.18	0.19	8.91	8.72	9.48	9.48	7230
0.75	3.52	0.48	0.41	5.16	0.53	8.95	8.42	6.63	6.63	6748
0.63	3.40	0.60	0.43	5.06	0.28	9.15	8.87	7.45	7.45	7229
0.56	4.98	1.16	0.42	7.12	0.50	8.50	8.00	6.89	6.89	6659
0.20	6.46	0.20	3.54	10.40	0.22	6.26	6.04	3.53	4.72	6568
0.29	2.36	0.46	0.75	3.86	1.45	12.05	10.60	.....	.....	6621

TABLE 8. ANALYSES OF MIXED FERTILIZERS—*Concluded*

Station No.	Manufacturer and Brand	Place of Sampling	Acid-forming (A) Non-acid-forming (NA) or near neutral (N)
	Standard Wholesale Phosphate & Acid Works, Baltimore, Md.		
6854	Standard 5-8-7	Glastonbury	A
6855	Standard 5-8-10	Glastonbury	A
	Stump & Walter Co., New York, N. Y.		
6441	Sawco Emerald Grass Fertilizer 5-7-3	Stamford	A
6442	Sawco General Garden Fertilizer 5-10-5	Stamford	A
	Summers Fertilizer Co., Inc., Baltimore, Md.		
6562	Summers "Best on Earth" 3-10-6	Wallingford	NA
6565	Summers "Best on Earth" 4-8-4	Wallingford	NA
6566	Summers "Best on Earth" 4-8-10	Wallingford	NA
6564	Summers "Best on Earth" 5-8-7	Wallingford	N
	Swift & Co. Fertilizer Works, Baltimore, Md.		
6461	Roselawn 5-8-7	Norwalk	N
6865	Swift's Special Golf Fertilizer 6-12-4	Fairfield	A
6445	Vigoro 4-12-4	Stamford	A
	Tennessee Corp., Lockland, Ohio		
6690	Loma 5-10-4	Hartford	A
	I. P. Thomas & Son Co., Camden, N. J.		
6559	I. P. Thomas 3-10-6	North Haven	A
6560	I. P. Thomas 5-8-7	North Haven	A
	F. H. Woodruff & Sons, Inc., Milford, Conn.		
6508	Gro-Sod Lawn Food 10-6-4	Milford	A
6789	Gro-Sod Lawn Food 10-6-4	Milford	A
	Woodruff Fertilizer Works, Inc., Orange, Conn.		
6516	Woodruff's 3-10-6 Fertilizer	Orange	NA
6861	Woodruff's 8-16-16 Fertilizer	Orange	A
6514	Woodruff's Big Crop Fertilizer 5-8-7	Orange	A
7065	Woodruff's Corn Fertilizer 4-16-4	Orange	A
6513	Woodruff's Top Dresser 7-6-6	Orange	NA
6515	Woodruff's Yankee Special Fertilizer 5-10-5	Orange	A

Nitrogen					Phosphoric Acid			Potash		Station No.
In nitrates	In ammonia	Organic water-soluble	Organic water-insoluble	Total	Citrate-insoluble	Total	So called "Available"	As muriate	Total	
%	%	%	%	%	%	%	%	%	%	
0.42	3.68	0.52	0.36	4.98	0.29	8.79	8.50	5.01	6.72	6854
1.07	2.68	0.76	0.40	4.91	0.60	10.88	10.20	9.04	10.27	6855
0.00	3.24	0.99	0.86	5.09	0.84	8.76	7.92	3.72	3.72	6441
0.18	3.88	0.48	0.64	5.18	0.74	10.85	10.11	4.97	4.97	6442
0.51	2.28	0.10	0.15	3.04	0.57	10.89	10.32	6.35	6.35	6562
0.84	3.40	0.04	0.12	4.40	0.72	9.28	8.56	4.27	4.27	6565
0.24	3.56	0.24	0.12	4.16	0.55	9.33	8.78	9.95	9.95	6566
0.35	4.40	0.20	0.11	5.06	0.48	10.34	9.86	6.95	6.95	6564
0.33	3.68	0.50	0.51	5.02	1.07	9.46	8.39	7.29	7.29	6461
0.39	5.04	0.00	0.30	5.73	0.58	12.94	12.36	4.09	4.09	6865
0.41	3.16	0.18	0.47	4.22	0.86	13.71	12.85	3.99	4.63	6445
0.34	4.46	0.00	0.44	5.24	0.38	10.86	10.48	4.60	4.60	6690
0.27	1.68	0.80	0.25	3.00	1.07	12.01	10.94	6.47	6.47	6559
0.36	3.68	0.56	0.40	5.00	0.59	8.98	8.39	7.16	7.16	6560
0.33	4.72	3.24	1.39	9.68	0.56	7.25	6.69	3.38	4.03	6508
0.11	4.76	3.48	1.48	9.83	0.71	7.31	6.60	4.42	4.42	6789
0.00	2.48	0.37	0.28	3.13	0.56	10.46	9.90	5.71	5.71	6516
0.00	4.06	3.09	0.66	7.81	0.55	16.29	15.74	16.96	16.96	6861
0.52	3.02	0.64	0.86	5.04	0.30	8.49	8.19	7.21	7.21	6514
0.60	2.40	0.36	0.64	4.00	0.59	16.70	16.11	4.48	4.48	7065
3.39	2.32	0.52	0.71	6.94	0.30	6.39	6.09	5.88	5.88	6513
0.78	2.80	0.62	0.82	5.02	0.71	10.61	9.90	5.12	5.12	6515

TABLE 8a. CHEMICAL DEFICIENCIES

Manufacturer or Dealer	Number of samples	Number of guaranties	Deficiencies in			
			Nitrogen	Available P ₂ O ₅	Potash	Total
Acme Guano Co.	12	36	4	2	5	11
American Agricultural Chemical Co.	25	75	7	1	0	8
American Cyanamid Co.	1	2	0	0	0	0
Apothecaries Hall Co.	17	50	0	0	1	1
Armour Fertilizer Works	10	30	4	0	4	8
Associated Seed Growers, Inc.	3	9	0	0	1	1
Bartlett, F. A., Tree Expert Co.	1	3	0	0	0	0
Baugh & Sons Co., The	8	24	3	0	1	4
Berkshire Chemical Co.	11	33	3	0	0	3
Consolidated Rendering Co.	25	75	4	0	2	6
Davey Tree Expert Co.	2	6	2	0	0	2
Davison Chemical Corp., The	2	6	0	0	0	0
Eastern States Farmers' Exchange	17	49	0	6	1	7
Goulard & Olen, Inc.	2	6	0	0	0	0
International Agricultural Corp.	5	15	2	0	0	2
Killen & Hall, Inc.	1	3	0	0	0	0
McArdle Seed Store	1	3	0	0	0	0
Olds & Whipple, Inc.	13	39	1	1	0	2
Old Deerfield Fertilizer Co., Inc.	6	18	0	0	0	0
Outpost Nurseries, Inc.	1	3	0	0	0	0
Plantspur Products Co.	1	3	0	0	1	1
Platt, Frank S. Co., Inc.	2	6	0	0	0	0
Rogers & Hubbard Co., The	19	57	0	0	5	5
Scott, O. M., & Sons Co.	1	3	0	0	0	0
Shoemaker, M. L., & Co.	1	2	1	0	0	1
Standard Wholesale Phosphate & Acid Works	2	6	0	0	1	1
Stump & Walter Co.	2	6	0	0	0	0
Summers Fertilizer Co., Inc.	4	12	0	0	0	0
Swift & Co., Fertilizer Works	3	9	1	0	0	1
Tennessee Corp.	1	3	0	0	0	0
Thomas, I. P., & Son Co.	2	6	0	0	0	0
Woodruff, F. H., & Son, Inc.	2	6	2	0	0	2
Woodruff Fertilizer Works, Inc., The	6	18	1	1	1	3
	209	622	35	11	23	69

TABLE 9. ANALYSES OF SPECIAL AND HOME MIXTURES

Station No.	Name of Mixture	Place of Sampling	Total nitrogen	Phosphoric acid			Potash			Station No.
				Citrate-insoluble	Total	"So-called" Available"	As muriate	Total	Chlorine	
			%	%	%	%	%	%	%	
6852	Sampled by Station Tobacco Fertilizer, Special	Clarence Philips, East Hartford	6.00	0.59	3.90	3.31	0.60	7.06	0.45	6852
7111 ¹	Mixture (Bantle)	N. L. Rich, Stamford	1.18	0.19	0.51	0.32	0.29	0.70	0.21	7111
7112 ²	Special Mixture for Japanese Beetle	N. L. Rich, Stamford	0.82	1.57	6.66	5.09	0.17	0.17	.....	7112
	Sampled by Purchaser									
6739	Home Mixed Fertilizer—Formula A—New Land	American Sumatra Tobacco Corp., Bloomfield	5.60	0.25	2.76	2.51	0.82	6.59	0.62	6739
6740	Home Mixed Fertilizer—Formula A—Sanford Division	American Sumatra Tobacco Corp., Bloomfield	6.00	0.21	2.70	2.49	0.58	5.64	0.44	6740
6760	Home Mixed Fertilizer—Formula A—Potter's Division	American Sumatra Tobacco Corp., Bloomfield	5.92	0.70	2.61	1.91	0.53	5.47	0.40	6760
7276	Special Mixture Fertilizer	C. R. Burr & Co., Inc., Manchester Consolidated Cigar Corp., Hartford	0.08	0.15	14.36	14.21	19.90	19.90	.....	7276
6044	Fertilizer, Formula A—P.A.	Consolidated Cigar Corp., Hartford	5.76	0.26	4.36	4.10	0.17	7.40	0.13	6044
6045	Fertilizer, Formula B—P.B.	Consolidated Cigar Corp., Hartford	6.19	0.29	3.63	3.34	0.16	5.88	0.17	6045
6194	Fertilizer, Formula Bm	Consolidated Cigar Corp., Hartford	6.00	0.30	3.64	3.34	0.56	6.39	0.42	6194
6195	Fertilizer, Formula A—Hu	Consolidated Cigar Corp., Hartford	6.04	0.21	4.06	3.85	0.52	6.81	0.39	6195
6196	Fertilizer, Formula B—Hu	Consolidated Cigar Corp., Hartford	5.98	0.24	3.81	3.57	0.60	6.07	0.45	6196
6197	Fertilizer, Formula Am	Consolidated Cigar Corp., Hartford	5.92	0.55	4.31	3.76	0.64	7.45	0.48	6197
6253	Mixed Fertilizer—Formula A—De Fertilizer—Du—A	Consolidated Cigar Corp., Hartford	6.14	0.27	4.45	4.18	0.51	6.49	0.38	6253
6359	Fertilizer—Du—B	Consolidated Cigar Corp., Hartford	6.21	0.56	4.66	4.10	0.41	5.48	0.31	6359
6360	Fertilizer—Du—B	Consolidated Cigar Corp., Hartford	6.08	0.26	3.95	3.69	0.40	5.59	0.30	6360
6361	Fertilizer—Du—B	Consolidated Cigar Corp., Hartford	6.08	0.32	4.04	3.72	0.52	5.67	0.39	6361
6577	Fertilizer—Formula De Sb	Consolidated Cigar Corp., Hartford	6.18	0.29	3.89	3.60	0.52	5.76	0.39	6577

¹Contained 18.4% moisture.²Contained 25.1% moisture.

TABLE 9. ANALYSES OF SPECIAL AND HOME MIXTURES—Concluded

Station No.	Name of Mixture	Place of Sampling	Total nitrogen	Phosphoric acid			Potash		Station No.
				Citrate-insoluble	Total	"So-called" available"	As murate	Total	
			%	%	%	%	%	%	
6578	Home Mixture Fertilizer—Formula De—Sa	Consolidated Cigar Corp., Hartford	6.12	0.30	3.87	3.57	0.39	6.21	6578
6756	Home Mixture Fertilizer—S.B.A.H.A. (HU)	Consolidated Cigar Corp., Hartford	6.16	0.46	3.57	3.11	0.65	6.07	6756
6757	Home Mixture Fertilizer—S.B.A.—P.	Consolidated Cigar Corp., Hartford	6.02	0.55	4.09	3.54	0.56	6.17	6757
6758	Home Mixture Fertilizer—S.B.B.—P.	Consolidated Cigar Corp., Hartford	6.16	0.35	3.44	3.09	0.53	5.77	6758
6759	Home Mixture Fertilizer—S.B.B.—W.	Consolidated Cigar Corp., Hartford	6.30	0.23	3.60	3.37	0.52	5.60	6759
6472	Home Mixture, Formula 40-C—No. 35	L. B. Haas & Co., Inc., Hartford	6.50	0.34	4.53	4.19	6.54	.....	6472
6473	Home Mixture, Formula 40-D—No. 36	L. B. Haas & Co., Inc., Hartford	6.14	0.52	5.05	4.53	0.48	6.25	6473
6474	Home Mixture, Formula 40-E—No. 37	L. B. Haas & Co., Inc., Hartford	6.30	0.33	2.94	2.61	1.52	6.19	6474
6475	Fertilizer, Formula 40-F, No. 38	L. B. Haas & Co., Inc., Hartford	6.29	0.27	2.92	2.65	0.45	5.46	6475
6476	Home Mixture, Formula 40-B—No. 39	L. B. Haas & Co., Inc., Hartford	6.27	0.51	4.80	4.29	0.37	5.51	6476
6477	Home Mixture, Formula 40-A—No. 33	L. B. Haas & Co., Inc., Hartford	6.17	0.69	5.74	5.05	0.45	6.27	6477
6478	Home Mixture, Formula 40-B—No. 34	L. B. Haas & Co., Inc., Hartford	6.15	0.70	5.35	4.65	0.43	5.91	6478
6731	Home Mixture, 40-A	L. B. Haas & Co., Inc., Hartford	6.42	0.25	2.87	2.62	0.52	6.10	6731
6732	Home Mixture, 40-B	L. B. Haas & Co., Inc., Hartford	6.17	0.57	5.13	4.56	0.54	5.78	6732

6733	Home Mixture, 40-E	L. B. Haas & Co., Inc., Hartford	6.10	0.68	5.20	4.52	0.60	6.39	0.45	6733
6610	Mixed Fertilizer	Hartman Tobacco Co., Hartford	3.00	0.09	3.25	3.16	.....	22.26	1.64	6610
7038	Home Mixture—Buckland	Hartman Tobacco Co., Hartford	6.12	0.20	3.77	3.57	0.45	6.23	0.34	7038
7039	Home Mixture—Hazardville	Hartman Tobacco Co., Hartford	5.44	0.11	3.44	3.33	0.54	6.00	0.41	7039
7030	Home Mixture—Windsor No. 2	Hartman Tobacco Co., Hartford	6.03	0.09	3.80	3.71	0.54	6.82	0.41	7040
7041	Home Mixture—Suffield 1940	Hartman Tobacco Co., Hartford	5.70	0.14	3.55	3.41	0.56	5.76	0.42	7041
7080	Home Mixture—Suffield	Hartman Tobacco Co., Hartford	9.96	0.21	2.51	2.30	0.31	1.52	0.23	7080
7081	Home Mixture—Hazardville	Hartman Tobacco Co., Hartford	9.59	0.25	2.45	2.20	0.25	1.43	0.19	7081
7082	Home Mixture—Windsor No. 1	Hartman Tobacco Co., Hartford	9.50	0.17	2.54	2.37	0.29	1.47	0.22	7082
7083	Home Mixture—Windsor No. 2	Hartman Tobacco Co., Hartford	9.50	0.19	2.60	2.41	0.28	1.44	0.21	7083
7084	Home Mixture—Buckland	Hartman Tobacco Co., Hartford	9.65	0.25	2.46	2.21	0.23	1.33	0.17	7084
6642	Mixed Fertilizer—Silver Lane Farm	Kohn Bros. Tobacco Co., Inc., Hartford	6.22	0.29	5.47	5.18	0.60	5.20	0.45	6642
6349	Home Mixture—Friend Farm	Kohn Bros. Tobacco Co., Inc., Hartford	5.89	0.24	4.24	4.00	0.11	5.40	0.08	6349
6850	Home Mixture—A. H. Grant & Sons Farm	Kohn Bros. Tobacco Co., Inc., Hartford	5.59	0.20	3.96	3.76	0.23	3.38	0.17	6850
6851	Home Mixture—Silverherz Farm	Kohn Bros. Tobacco Co., Inc., Hartford	6.34	0.18	5.11	4.93	0.53	5.35	0.40	6851
6953	Home Mixture—Ranson Farm	Kohn Bros. Tobacco Co., Inc., Hartford	6.30	0.25	4.94	4.69	0.85	7.21	0.64	6953
6761	Home Mixed Fertilizer	Matulis Bros., Broad Brook	4.94	0.93	8.16	7.23	9.39	9.39	.....	6761
5328	Home Mixed Tobacco Fertilizer	Joseph Mulak, Hazardville	5.04	0.58	5.63	5.05	0.51	9.30	0.38	5328
5871	Formula A—P	Silberman & Kahn Corp., Hartford	5.72	0.76	4.45	3.69	.....	7.20	0.45	5871
7221	O & W Special Mixture	Henry E. Wells, Warehouse Point	7.26	0.35	5.82	5.47	1.00	12.86	0.75	7221

TABLE 10. ANALYSES OF SHEEP MANURE, ETC.

Station No.	Manufacturer and Brand	Place of sampling	Nitrogen		Total phosphoric		Potash		Station No.
			Found	Guaranteed	Found	Guaranteed	Found	Guaranteed	
6662	Acme Sheep Manure. The Acme	W. B. Welden, Simsbury	%	%	%	%	%	%	6662
6819 ¹	Guano Co., Baltimore, Md.		2.68	1.85	2.52	1.50	2.27	1.50	
6818	Pulverized Sheep and Goat Manure. American Agricultural Chemical Co., No. Weymouth, Mass.	Bristol Grain & Supply Co., Bristol	1.02	1.25	1.63	1.00	2.58	2.00	6819
6439	Sheep Manure. Apothecaries Hall Co., Waterbury, Conn.	Hamden Grain Co., Mt. Carmel	1.20	1.00	0.85	0.50	0.99	1.00	6818
6432	Improved Dricoune. Atkins & Dur- brow, Inc., New York, N.Y.	Clapboard Hill Co., New Canaan	2.65	2.00	3.16	1.00	1.41	1.00	6439
6657	Berkshire Sheep and Goat Manure. Berkshire Chemical Co., Bridgeport, Conn.	Silliman Hardware Co., New Canaan	1.90	1.25	1.84	1.00	2.19	2.00	6432
6447	Corenco Sheep Manure. Consolidated Rendering Co., Boston, Mass.	Morrison & Dunham, Bethel	1.21	1.25	1.74	1.00	2.50	2.00	6657
6583	Davey Shredded Cattle Manure. Davey Tree Expert Co., Kent, Ohio	R. E. Landis, Old Greenwich	2.19	1.00	3.20	.....²	2.11	2.00	6447
6669	G & O Sheep Manure. Goulard & Olena, Inc., New York, N.Y.	Rackliffe Bros. Co., New Britain ...	1.42	1.00	2.09	.....³	3.97	2.00	6583
6663	Hoffman's Cow Manure. A. H. Hoff- man, Inc., Landisville, Pa.	Heyman's Hardware Co., Danbury....	2.26	2.00	2.31	.....⁴	2.12	2.00	6669
	Hoffman's Sheep Manure. A. H. Hoff- man, Inc., Landisville, Pa.	Wm. J. Rice, Stamford	1.94	1.85	0.85	.....⁵	1.41	2.00	6663

6843	Sheepshead Pulverized Sheep Manure. Natural Guano Co., Aurora, Ill.	2.01	2.00	1.26	.....⁸	3.55	2.00	6843
6618	Premier Brand Pulverized Poultry Manure. No. American Car Corp., Chicago, Ill.	5.30	4.93	2.54	2.75 ⁷	1.18	1.30	6618
6812	Premier Brand Pulverized Sheep Manure. No. American Car Corp., Chicago, Ill.	1.96	1.65	2.16	1.00 ⁸	2.47	2.00	6812
6453	Wizard Brand Cow Manure. The Pul- verized Manure Co., Chicago, Ill. ...	2.14	2.00	1.74	.....⁹	2.78	1.00	6453
6431	Wizard Brand Pulverized Sheep Manure. The Pulverized Manure Co., Chicago, Ill.	2.17	2.00	2.24	.....¹⁰	3.21	2.00	6431
6745	Hubbard's Sheep and Goat Manure. The Rogers & Hubbard Co., Portland, Conn.	1.82	1.25	2.49	1.00	3.53	2.00	6745
6443	Sawco Pulverized Sheep Manure. Stumpp & Walter Co., New York, N. Y.	2.39	2.00	1.83	1.00	2.57	2.00	6443
6567	Summers "Best on Earth" Goat Manure, Summers Fertilizer Co., Inc., Baltimore, Md.	1.36	1.00	2.57	.....¹¹	3.88	3.00	6567
6444	Swift's Sheep Manure. Swift & Co., Baltimore, Md.	2.00	1.85	1.68	1.00	3.02	1.75	6444
6450	Bovung, Walker-Gordon Laboratory Co., Inc., Plainsboro, N. J.	2.08	2.00	2.60	2.00	2.25	2.00	6450

Moisture 29.04%.
¹Guaranteed "available" phosphoric acid 1.00%; found 2.85%.
²Guaranteed "available" phosphoric acid 1.00%; found 1.36%.
³Guaranteed "available" phosphoric acid 2.00%; found 2.08%.
⁴Guaranteed "available" phosphoric acid 1.00%; found 0.65%.
⁵Guaranteed "available" phosphoric acid 1.00%; found 1.00%.
⁶Guaranteed "available" phosphoric acid 2.50%; found 2.41%.
⁷Guaranteed "available" phosphoric acid 0.75%; found 1.41%.
⁸Guaranteed "available" phosphoric acid 1.00%; found 1.56%.
⁹Guaranteed "available" phosphoric acid 1.00%; found 1.94%.
¹⁰Guaranteed "available" phosphoric acid 1.00%; found 1.51%.

TABLE 11. ANALYSES OF LIMESTONE AND SIMILAR MATERIALS

Station No.	Manufacturer and Brand	Sampled from stock of or sent by
	American Limestone Quarry Corp., Wingdale, N. Y.	
5386	Ground Limestone	Agric. Conservation Program, Hartford
5390	Ground Limestone	Agric. Conservation Program, Hartford
7264	Ground Limestone	Agric. Conservation Program, Hartford
	Conklin Lime Co., Canaan, Conn.	
5058	Ground Limestone	Agric. Conservation Program, Hartford
5163	Ground Limestone	Agric. Conservation Program, Hartford
5164	Ground Limestone	Agric. Conservation Program, Hartford
6548	Ground Limestone	Agric. Conservation Program, Hartford
	Connecticut Agstone Co., Danbury, Conn.	
7261	Ground Limestone	Agric. Conservation Program, Hartford
7435	Ground Limestone	Agric. Conservation Program, Hartford
7262	Ground Limestone	Agric. Conservation Program, Hartford
5384	Ground Limestone	Agric. Conservation Program, Hartford
7434	Ground Limestone	Agric. Conservation Program, Hartford
5383	Ground Limestone	Agric. Conservation Program, Hartford
7436	Ground Limestone	Agric. Conservation Program, Hartford
	Lee Lime Corp., Lee, Mass.	
6550	Ground Limestone	Agric. Conservation Program, Hartford
6549	Ground Limestone	Agric. Conservation Program, Hartford
	New England Lime Co., Canaan, Conn.	
4565	Hydrated Lime, No. 9	American Sumatra Tobacco Corp., Bloomfield
5508	Ground Limestone	Agric. Conservation Program, Hartford
5385	Ground Limestone	Agric. Conservation Program, Hartford
6645	Ground Limestone	Agric. Conservation Program, Hartford
	D. U. Smith Ashley Falls, Mass.	
7263	Ground Limestone	Agric. Conservation Program, Hartford
5509	Ground Limestone	Agric. Conservation Program, Hartford

Chemical analysis				Total oxides	Mechanical analysis		Station No.
Lime (CaO)		Magnesia (MgO)			20 mesh	100 mesh	
Found	Guaranteed	Found	Guaranteed				
%	%	%	%	%	%	%	
30.32	30.28	21.80	21.91	52.12	100.0	.....	5386
30.36	30.28	21.49	21.91	51.85	100.0	.....	5390
30.42	30.28	21.62	21.91	52.04	100.0	83.3	7264
29.95	30.00	21.47	21.00	51.42	99.9	39.3	5058
29.71	30.00	20.75	21.00	50.46	99.9	36.4	5163
30.03	30.00	20.94	21.00	50.97	99.9	38.5	5164
30.14	30.00	20.84	21.00	50.98	100.0	39.0	6548
37.91	44.00	7.82	6.00	45.73	95.5	63.0	7261
41.42	42.00	5.96	6.00	47.38	95.6	60.8	7435
37.63	44.00	7.65	6.00	45.28	96.3	63.5	7262
38.10	44.00	8.02	6.00	46.12	95.6	.....	5384
36.74	42.00	7.62	6.00	44.36	95.3	61.8	7434
37.19	44.00	8.00	6.00	45.19	95.5	.....	5383
38.38	42.00	7.57	6.00	45.95	94.7	60.7	7436
30.41	30.00	21.51	21.00	51.92	97.6	63.9	6550
30.40	30.00	21.54	21.00	51.94	99.5	73.1	6549
47.24	.....	32.94	.....	80.18	.....	.....	4565
30.93	30.00	21.49	21.00	52.42	99.8	.....	5508
30.73	30.00	21.73	21.00	52.46	99.9	.....	5385
30.77	30.00	21.64	21.00	52.41	99.8	73.5	6645
30.52	30.00	21.49	21.00	52.01	100.0	65.8	7263
30.65	30.00	21.65	21.00	52.30	100.0	.....	5509

TABLE 11. ANALYSES OF LIMESTONE AND SIMILAR MATERIALS (*Concluded*)

Station No.	Manufacturer and Brand	Sampled from stock of or sent by
	U. S. Gypsum Co., Falls Village, Conn.	
5547	Ground Limestone	Agric. Conservation Program, Hartford
5548	Ground Limestone	Agric. Conservation Program, Hartford
	Manufacturer Unknown	
7130	Agricultural Lime — No. 1	W. C. Criswell, New Milford
7131	Agricultural Lime — No. 2	W. C. Criswell, New Milford
5632	Land Plaster, Car NH 63633	Cullman Bros., Inc., Simsbury
5666	Land Plaster, Car NH 65564	Cullman Bros., Inc., Simsbury
6160	Calcic Lime	Cullman Bros., Inc., Simsbury
6161	Lee Hydrated Lime	Cullman Bros., Inc., Simsbury
6165	Lee Hydrated Lime	Cullman Bros., Inc., Simsbury
6203	Calcic Lime	Cullman Bros., Inc., Simsbury
6204	Lee Hydrated Lime	Cullman Bros., Inc., Simsbury
6223	Calcic Lime	Cullman Bros., Inc., Simsbury
4819	Amlico Land Lime	Griffin-Fuller Tobacco Co., Hartford...
6147	Land Plaster	Hatheway-Steane Corp., Hartford
6148	Land Plaster	Hatheway-Steane Corp., Hartford
6149	Land Plaster	Hatheway-Steane Corp., Hartford
6184	Land Plaster	Hatheway-Steane Corp., Hartford
4021	"Star Dust"	F. Mansfield & Sons Co., New Haven
4022	Pulverized Lime	Adamant Plaster Co., New Haven
6797	Land Plaster	A. N. Shepard & Son, Hartford
6800	Hydrated Lime	A. N. Shepard & Son, Hartford
5625	Hydrated Lime, No. 6 P	Silberman & Kahn, Hartford
5626	Hydrated Lime, No. 18 Hu	Silberman & Kahn, Hartford
6746	Ground Limestone	Soil Conservation Service, Rockville ...

Chemical analysis				Total oxides	Mechanical analysis		Station No.
Lime (CaO)		Magnesia (MgO)			20 mesh	100 mesh	
Found	Guaranteed	Found	Guaranteed				
%	%	%	%	%	%	%	
30.52	30.50	20.98	20.50	51.50	100.0	.....	5547
30.54	.....	21.00	.....	51.54	100.0	.....	5548
30.61	.....	21.26	.....	51.87	100.0	21.8	7130
30.85	.....	21.65	.....	52.50	100.0	58.0	7131
33.55	.....	0.30	.....	33.85	.....	.....	5632
33.61	.....	0.14	.....	33.75	.....	.....	5666
72.41	70.00	0.72	0.50	73.13	.....	.....	6160
41.85	47.00	29.37	31.00	71.22	.....	.....	6161
46.87	47.00	33.14	31.00	80.01	.....	.....	6165
72.29	70.00	0.88	0.50	73.17	.....	.....	6203
46.44	47.00	32.59	31.00	79.03	.....	.....	6204
72.19	70.00	0.94	0.50	73.13	.....	.....	6223
30.44	.....	18.83	.....	49.27	.....	.....	4819
33.36	.....	0.18	.....	33.54	.....	.....	6147
33.61	.....	0.12	.....	33.73	.....	.....	6148
33.50	.....	0.11	.....	33.61	.....	.....	6149
33.59	.....	0.27	.....	33.86	.....	.....	6184
84.17	.....	8.66	.....	92.83	.....	.....	4021
93.44	.....	0.91	.....	94.35	.....	.....	4022
36.62	.....	9.58	.....	46.20	.....	.....	6797
44.69	.....	31.67	.....	76.36	.....	.....	6800
46.19	.....	32.15	.....	78.34	.....	.....	5625
46.46	.....	32.28	.....	78.74	.....	.....	5626
43.54	35.00	10.21	10.00	53.75	100.0	94.5	6736

TABLE 12. ANALYSES OF MISCELLANEOUS MATERIALS

Station No.	Material	Moisture	Ash	Organic and volatile	Nitrogen	Phosphoric acid	Potash
		%	%	%	%	%	%
4959 ¹	Vegetable waste or compost	45.70	19.74	34.56	1.31	0.46	0.98
4936	Peat (dry)	.....	.....	.....	0.41	0.68	0.60
6737	Peat Moss (dry)	62.50	8.99	28.51	0.59	.....	.....
5627	American Peat Moss (dry)	.....	3.69	96.31	2.16	.....	.....
6294	Sewage sludge, processed (dry)	18.93	29.67	51.40	2.21	2.45	0.06
6547	Sewage sludge (Milford plant) (dry)	.....	74.51	25.49	1.62	1.81	0.12
6713	Sewage sludge, activated (Milford plant)	95.74	2.09	2.17	0.13	.....	.....
6714	Sewage sludge, activated (Milford plant) (dry)	.....	46.62	53.38	2.98 ²	2.79	0.13
6715	Sewage sludge, activated (Milford plant)	98.39	0.36	1.25	0.10	.....	.....
7232	Sewage sludge, Fairfield State Hospital	37.30	42.82	19.88	1.17	0.58	0.12
3813	Sewage sludge (Danbury plant)	29.70	38.14	32.16	2.17	1.57	0.19
5812	Hen manure (dry)	.....	.....	.....	2.84	2.30	.....
5391	Hen manure (dry)	51.90	.....	.....	1.83	1.88	1.04
5573	Hen manure + peat moss (equal parts) (dry)	.....	.....	.....	2.81	2.35 ³	0.40
4626	Cow manure (dry)	42.80	38.48	18.72	1.05	0.56	0.18
5397	Tobacco, fine ground (dry)	.....	.....⁴	.....	0.84	0.60	1.16
5398	Tobacco, coarse ground (dry)	.....	.....⁵	.....	1.40	0.75	5.15
5893	Tobacco stems (dry)	.....	.....	.....	2.46	.....	7.83
6101	Tobacco stems (dry)	16.00	.....	.....	3.03	0.77	5.91
7265	Tobacco dust ⁶ .....	.....	.....	.....	.....	.....	.....
7287	Tobacco stems ⁷ .....	.....	.....	.....	.....	.....	.....
4875	Ashes from pitch pine, Pine Grove, Niantic .....	.....	.....	.....	.....	.....	6.43
6295	Cacao bean by-products (dry)	.....	8.37	.....	4.08 ⁸	2.29	2.31
5744	Cacao waste (dry)	.....	.....	.....	2.50	1.70	0.40
4935	Ground press cake from infertile eggs after oil is extracted for tanning	0.70	92.35 ⁹	6.95 ¹⁰	1.28	0.63	0.29
7185	Apple pulp (pomace)	51.05	4.28	44.67	1.85	0.25	0.05

¹CaO 9.17%.²Water-soluble organic nitrogen 0.46%.³"Available" P₂O₅ 2.15%.⁴Chlorine 0.10%.⁵Chlorine 1.20%.⁶Nicotine 0.78%.⁷Nicotine 1.01%.⁸Water-insoluble organic nitrogen 3.16%; activity 36%; CaO 1.22%; MgO 0.81%.⁹CaO 50.18%.¹⁰Fat 0.52%.

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